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Abstract

The purpose of this research was to understand what factors influence decision-making by case managers in resource allocation and how the home care context influences their decisions. The four chapters making up the main body of this dissertation consist of two published papers and two manuscripts to be submitted for publication. My two research questions were: What factors influence resource allocation decisions for high needs home care clients? How does the home care context influence the relative importance of factors used in the case manager resource allocation decision-making process?

The first paper is a theoretical review of the literature on home care case management and decision-making (Fraser & Strang, 2004). The second paper is a systematic review of the literature (Fraser & Estabrooks, in press) identifying factors case managers use in resource allocation in home care. These first two papers helped me to identify knowledge gaps related to case manager resource allocation decision-making in home care and guided me in the selection of appropriate study design and methods.

I used an ethnographic approach, specifically ethnoscience in the tradition of Spradley (1979) to study the language and the way participants use their language to categorize their world. In addition to ethnoscience, I used constant comparative methods to analyze process data. I also drew upon case study methods as a tool to illuminate the decision-making processes in a case exemplar. I conducted this study with 11 case managers within a children's home care program in a regional health authority in Western Canada.

The combined findings of these papers are a validated, observed taxonomy of factors that influence the decision-making of case managers in resource allocation for high needs home care clients, a comparison between the expected and observed taxonomies, and the identification of three themes in case manager resource allocation decision-making. The three themes that emerged in the complex and multidimensional process that case managers go through in making resource allocation decisions were the role of the family in the resource allocation decision, the messiness of the decision-making process in this context, and the collective wisdom of the team.

Dedication

To My Family.

To my loving and wonderful husband Bim for believing that we could take on this journey as a family and for unconditionally supporting me through the process. I will be forever grateful in my love for you.

To my most incredible son, Matheson, whom I love more than anything else on earth -- You are what is truly important! Starting this journey before you were two years old and finishing after your 8th birthday has provided more opportunity for learning than any PhD *ever* could. Insights about you have given me insights about me. Many of those insights helped me understand and persevere. I am excited to watch you make your mark on this world.

To my mother and father, Myrna and the late Donald Polley.

Mom, you are the consummate mother, caregiver, and registered nurse. I have learned so much more about the essence of caregiving, nursing, and home care by watching you, and both you and Dad together, for the twenty years since I started nursing school in 1980 and up until I started this PhD. Thank you for encouraging me to be a nurse. More importantly, thank you for *showing* me what a good mother is, what a good caregiver is, and what a good nurse is. The standards of care you have demonstrated in looking after Dad truly are benchmarks we uphold.

Dad, you were a wonderful and loving father as well as a model patient. I miss you so much. Your life was too short. The patience you demonstrated living with MS was commendable. Among other things, you gave me my drive and determination and my positive outlook on life. The values you instilled in me and the qualities I share with you have always served me well, regardless of the circumstances or difficulty. I love you and know you are still smiling.

To my sisters, brother, and their families, Shannon, Todd, and Tara, as well as my special Aunt Diane -- I am blessed to have such a loving and supportive family.

This work is dedicated to my Family, for without you it would not be.

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My supervisor, Dr. Carole Estabrooks - Carole you have taught me many things, including:

- The importance of not only *doing* but *thinking*
- The value in the saying *"less is more"* when it comes to writing
- That my determination and perseverance are a very good thing, and importantly
- How to defend without being defensive

I am truly grateful for the countless hours spent editing my work and providing not only valuable, but *profuse volumes*, of written feedback. I did pay attention to your feedback! I sincerely appreciate the academic and scholarly advice you often and willingly shared. I have the utmost respect for your work and your knowledge. I have benefited greatly from all that you have shared with me, including access to all of the people and resources on your research unit, KUSP. Sincerely, thank you!

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To all of my fellow doctoral students, colleagues, and dear friends who listened to me rant and rave, who were there through my trials and tribulations, and who never missed a celebration through this interesting and perplexing journey! The Shannon's, Shannon S. and Shannon S., (this is not a typo), and Kathy, Lisa, Janet, Alison, Jacques, Ali, Anne…thank you! My best friends, Sharon and Brad and Marietta and Dennis…it's over, but you will still have to celebrate with me and listen to me rave once and a while! Thank you!

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Factors that Influence

Case Manager Resource Allocation Decision-making in Home Care

Chapter 1

Introduction & Overview

The purpose of this chapter is to introduce the reader to my doctoral dissertation. I will present an overview of the areas that have informed my research as well as a description of the design of this dissertation and a discussion of the methods I used for my empirical work. I conclude this chapter with a brief synopsis of the four papers that are the products of my dissertation. I will begin with an overview of home care, case management, and decision-making in home care, specifically as it relates to resource allocation.

Home Care

The Health Council of Canada (2006) reported that, from 1995 to 2002, the number of Canadians receiving publicly funded home care increased by 60%. The Canadian Home Care Association [CHCA] (2007) reported that, from 1995 to 2006, the number of publicly funded home care clients grew by nearly 100% to approximately one million clients at any given time.

Although diversity exists across provincial jurisdictions, the array of services covered under home care is similar and consists of both professional (for example, nursing and physical therapy) and nonprofessional (for example, personal care and homemaking) services provided in the homes of individual clients. Home care visits range from 30 minutes to more than 8 hours in duration. In some specific instances, such as in palliative care, clients may receive 24-hour care through rotating shifts. Clients with

complex care requirements, as in the case of many children with complex medical needs, may be allocated regular full-time daytime or nighttime care.

The role of home care within the Canadian health care system has been included in a number of recent health care reports. The Kirby report (2002) called for expanded federal coverage of home care, the Romanow report (2002) described home care as the next essential service and as one of the fastest growing health care programs, and the First Ministers Accord (2003) included a call for a federal-provincial agreement to ensure that a core basket of home care services exists by 2006. Home care continues to be defined, funded, and delivered at the provincial level in Canada (with the exception of First Nations' home care programs, which have always been funded directly from Health Canada to First Nations).

Home care expenditures are increasing in all jurisdictions. For 1980–81, spending on home care in Canada was $205 million or 0.6% of total public health expenditures, whereas, in 2000–2001, $2.5 billion or 3.5% of total public health expenditures went toward home care (CHCA, 2004). Although public home care expenditures have more than doubled since 1992 (Shapiro, 2002) and have increased at a rate fourfold greater (9.0% compared to 2.2%) than other health care spending increases in the same period (Coyte, 2000), resources are not keeping pace with the number or the acuity of clients in home care (Shapiro, 2002). Additionally, human resources are at a critical all-time low in the home care sector (Canadian Home Care Human Resources Study, 2003). Priority-setting and rationing are words that are creeping into the home care agenda and it is necessary to ensure that available resources are appropriately allocated, from both a financial and a human resource perspective. While the lack of consistency in data

collection and data management presents challenges for researchers and policy makers (CHCA, 2007), many believe that the financial investment in publicly funded home care is not keeping pace with this growth.

Not only are home care clients increasing in both number and acuity, but patients are being discharged home from acute care hospitals sooner in order to make room for the sickest and most critically ill in hospital. Compounding these trends is the ongoing growth of Canada's senior population, many of whom need home care services. The increase in longevity and in the number of people choosing to remain in their own homes rather than move into long-term care facilities has contributed significantly to the resource burden on home care (Coyte, 2000; Shapiro, 2002).

The subpopulation of children in home care is growing in number as well. Increasing knowledge and technological advances are the primary reasons for this growth (Peter et al., 2007). Children who might have either died or remained in hospital in the past are now living at home with care in the community. As more care continues to be delivered in the home, increasing responsibilities shift to family members, who are providing this care despite high levels of physical demands, emotional burden, and financial costs (Canadian Home Care Association, 2001; Fast & Keating, 2000; Varga-Toth, 2005). The goal of home care through home care case management is to ensure that resources are allocated appropriately to care for clients in their own homes.

Home Care Case Management

Case management has been widely adopted over a relatively short period of time as a means to coordinate service delivery in home care. Case managers are the clinicians who perform the case management role. Case managers decide on, coordinate, and

oversee the delivery of an array of services to individuals with increasingly complex care needs. A major function of case management in home care is deciding what resources to allocate to home care clients. Nurses, in particular, have embraced case management as a means to influence health care decisions, keep the nursing perspective visible, and directly influence the quality of care a patient receives (Daiski, 2000). Nurses' extensive assessment and coordination skills in health care contribute to their suitability to perform the case management role (Fraser & Strang, 2004). Although I recognize that people from a variety of professional disciplines, such as social workers, nurses, and rehabilitation practitioners, perform the case management role, the focus of my work is on nurse case managers.

Resource Allocation Decision-making in Home Care

Resource allocation decision-making involves decisions pertaining to the distribution of resources among competing programs or people as it occurs at all policy levels of the health care system. In home care, these decisions are made at the macro, meso, and micro levels (Padgett, 1998; Saulo, 1996). Macro- and meso-allocation decisions are those made at the system and program levels respectively. They include determination of how much funding is available, for what services (or goods), and how those services should be delivered. Micro-level decisions are individual practitioner decisions about what resources to allocate to individual clients (Beauchamp & Childress, 2001). Case managers assess clients, gather the best available information, and combine this knowledge to make decisions regarding the amount and type of services that would best meet a client's needs. Most of the research on resource allocation has been targeted at the macro or meso levels, with little research available at the micro level.

Evidence-based Decision-making

In recent years, personnel in health care environments with increasing financial and human resource constraints, such as home care, have been subjected to increased societal and political demands to be more accountable for resource allocation. As such, clinicians and administrators attempt to address this increased pressure, at least in part, by practicing from an evidence-based perspective. Whether that be evidence-based practice, evidence-based nursing, or evidence-based decision-making specifically, it is a perspective that is assumed to make practice, or decisions, better and that will lead to better outcomes for clients (Estabrooks, 1998).

In home care, specifically case management, there is increasing pressure to practice within an evidence-based perspective. Although there are initiatives that are touted as moves towards evidence-based practice, such as an increase in the development and use of guidelines (Alcock, Edwards, & Morris, 1998; Daiski, 2000), the evidence base for these is not always clear. In general, the manner in which evidence is manifested in case manager resource allocation decisions is unclear (Fraser & Estabrooks, in press). In order for case manager resource allocation decision-making to be evidence-based, it is important that we first understand what knowledge, including research-based evidence, enters into the decision-making process.

Clinical expertise, research evidence, available resources, and patient preferences have been identified as sources of information used in evidence-based decision-making in nursing. All four play a significant role in clinical decisions to a greater or lesser degree (DiCenso, Callum, & Ciliska, 1998; Flemming & Fenton, 2002; Fonteyn & Ritter, 2000; Jones & Higgs, 2000; Mullhall, 1998; Rycroft-Malone, 2004). The ongoing challenge

facing clinicians and researchers alike is in understanding how the various influencing factors in the decision-making process are combined to create evidence-based practice environments. This is the case in many health care contexts, including home care.

Currently there is little research available on case manager resource allocation decision-making. We do not know the specific factors that influence resource allocation in the complex context of home care, the relationship among and between the factors, or the weighting of the factors. Of concern is that these individual decisions directly affect the level of service a client receives and subsequently affect overall program resources, including the ability of a home care program to deliver equitable services to all clients. As a result, it is not possible at this point to address the effect that case manager decision-making behaviour has on client and system outcomes. Therefore, the first step is to understand what case managers consider and how they make resource allocation decisions. Hence, the empirical research that I carried out is descriptive research, which must be carried out before larger scale implementation studies can be designed to measure the effect of case manager resource allocation decisions on client and family health outcomes, or on system outcomes.

Key Terms

Case management in home care is the process of determining client needs, planning necessary care, allocating resources for care required, coordinating care and supports on an ongoing basis, and monitoring and evaluating the care provided.

The r*esource allocation* process in home care is the determination of services for specific home care clients by case managers.

Decision-making is the process of determining a course of action for a given situation in light of various sources of information.

Case management resource allocation decisions are the decisions case managers make regarding the care a given client will receive, for example, as to the type of services authorized, who will deliver that care (i.e., health care aide or professional nurse), and for what period of time services will be delivered in order to meet both client-centred and system-centred goals. Increasingly, resource allocation includes rationing and priority setting.

The Motivation for this Doctoral Research

My interest in resource allocation decision-making in home care was sparked by experiences in my nursing career. First, as a community health nurse in northern communities, I was charged with both population health and home care. Interestingly, the first thing to be cut from overly busy days or weeks was home visits. Yet, I *knew* that by not seeing my home visit clients, they would end up in the clinic, consuming far more resources than my half-hour visit, or, worse, they would require air-transfer to hospitals hundreds, and in some cases, thousands of miles away. But I was not responsible for making those decisions or for ensuring there were enough nurses in the clinic to see everyone who showed up that day. It was clear to me that treatments for emergencies had to take priority. People would die. It was at that point that I first realized that acute care takes precedence over home care when it comes to allocating resources. Indeed, Coyte (2000) has characterized home care as the underdog to the medical elite.

Second, I slowly started to pay attention to how things were decided in health care. In spite of the discontent I felt at the realization that acute care takes precedence

over home care and looked like it would for some time to come, I wanted to do my nursing work in home care. I saw that people could be well-cared for by their family, home care nurses, and support workers at home. One could quickly infer that this care was far better for the client, his or her family, *and* the health care system in terms of resource use, in most situations. I also knew that dollars spent or saved were not the only important measures of success. And, in the end, my experiences with the home care sector of our health care system opened my eyes to what *could* be if families and society wanted the home care option.

Home care may not be right for everyone, but home care should be one of the options for everyone. Caring for family and friends is a personal choice, and often done out of love and compassion. However, there can be huge costs to families in terms of the physical, social, emotional, and financial demands. It is not unusual, or unreported, that families feel burdened, emotionally stressed, and physically exhausted. In fact, it is a common story that is retold by many families in the throes of caregiving, especially for families who have loved ones with very high needs. From my perspective, I believe it is a societal responsibility to support the vast numbers of families providing direct care or supporting care to loved ones at home. This resource does, in effect, save our health care system millions, if not billions of dollars (CHCA, 2007; Coyte, 2000).

The empirical and theoretical literature base specific to home care case management, and to the resource allocation decisions of case managers, is in the early stages of development. It is fragmented and consists predominantly of single studies that have a broad array of foci. As a result I drew on literature from several related and well-developed fields. These other areas provided me with valuable theoretical perspectives.

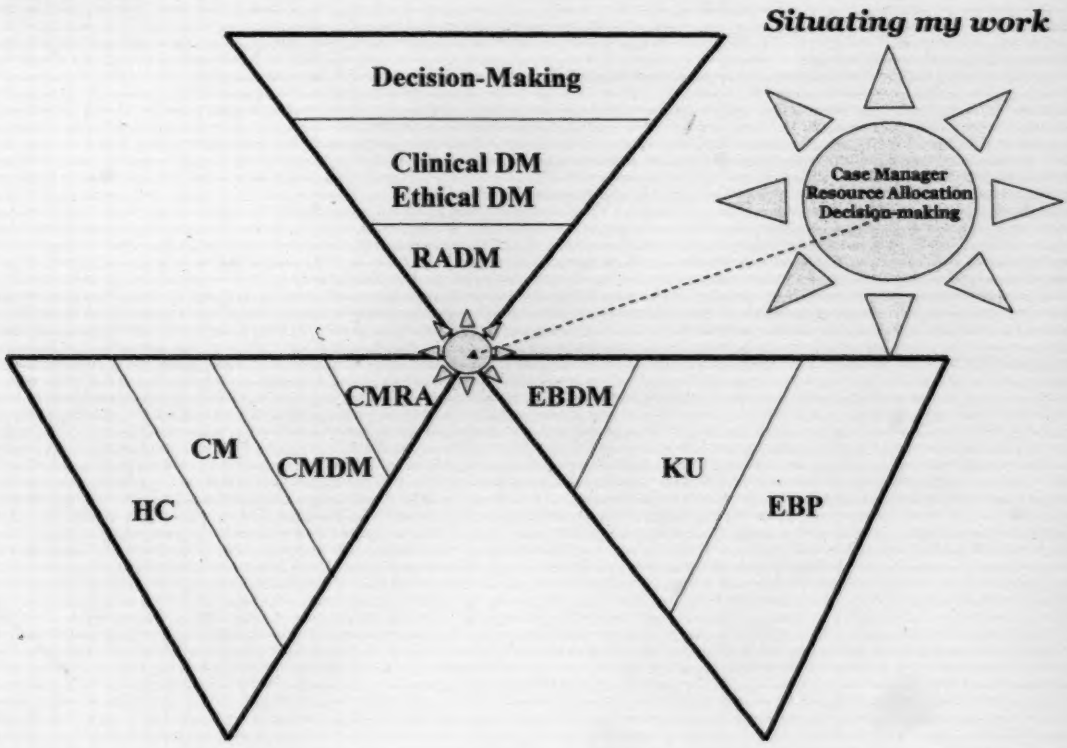
My doctoral work has been informed by three main bodies of knowledge. These are

1. the decision-making field, including clinical decision-making, ethical decision-making, and resource allocation decision-making,
2. the home care literature, including case management, case manager decision-making, and case manager resource allocation, and
3. the evidence-based practice literature, including knowledge utilization and evidence-based decision-making.

Figure 1 offers a pictorial representation of where I situate my work in relation to these three main bodies of knowledge.

Several theoretical positions from the various bodies of literature have informed my area of study, including the knowledge utilization field and the evidence-based practice literature. For example, the PARIHS model (Promoting Action on Research Implementation in Health Services), developed in 1998, illustrates three overall dimensions (context, nature of evidence, and facilitation) that are believed to be necessary for effective use of research in practice (Kitson, Harvey, & McCormack, 1998). We know that the nature of evidence affects its use and that there are various sources of evidence other than research that inform decision-making (Lomas, 2007). Additionally, we know that the choice of evidence to be used, and the uptake of that evidence, is influenced by the context in which it will be used including workplaces, policy environment, and government (Lomas, 2007; Rogers, 1995). Yet, despite over 30 years of research in this area, we still do not know how best to promote guidelines and other evidence-based tools into practice (Grimshaw et al., 2004). Further, we still

Figure 1 Situating the study of case manager resource allocation decision-making in home care



Acronym Key:
DM: Decision-making
RADM: Resource Allocation Decision-making
HC: Home Care
CM: Case Management
CMDM: Case Management Decision-making
CMRA: Case Management Resource Allocation
EBP: Evidence-based Practice
KU: Knowledge Utilization
EBDM: Evidence-based Decision-making
CaMera DM: Case Manager Resource Allocation Decision-making

do not know enough about the relationship between the various sources of information, the cues to guide decisions, or the actual decision processes used to reach decisions (Luker & Kenrick, 1992; Rycroft-Malone, 2004).

The decision-making literature is another body of knowledge that provides theoretical perspectives. Decision theories often arise from the fields of psychology and economics. Examples are the cognitive continuum theory (Hamm, 1988), a theory that incorporates both analytic and intuitive processes and is often used in the study of medical and nursing decision-making, and the subjective expected utility model of decision-making, a normative theory based on economic logic (Chapman & Elstein, 2000; Hastie, 2001).

Economic models are often used in the resource allocation literature, but are often applied at the macro and meso decision-making levels. Although all of these areas are informative and were rich sources of knowledge for my work, I struggled with their applicability to my study a priori. As my study progressed and analysis led me back to the literature, I was drawn back to the resource allocation literature. Theories of ethical approaches to resource allocation decision-making struck me as particularly relevant. One specific theory used to situate the findings of this study is discussed in Chapter 4, Paper 3. Because this field is in the early stages of development and it is necessary to describe what case managers consider in their resource allocation decisions and how they make their resource allocation decisions, imposing normative or prescriptive theories would have been premature at this stage.

The direction of my nursing research, then, was based on past experiences, observations, and empirical literature, each of which contributed to my drive to

understand how and why we do what we do in health care, specifically regarding resource allocation decisions in home care. I hope my research provides some insights that eventually will lead to the best possible outcomes for clients *and* their families. This dissertation is the product of my doctoral work and was designed to understand case manager resource allocation decision-making in home care.

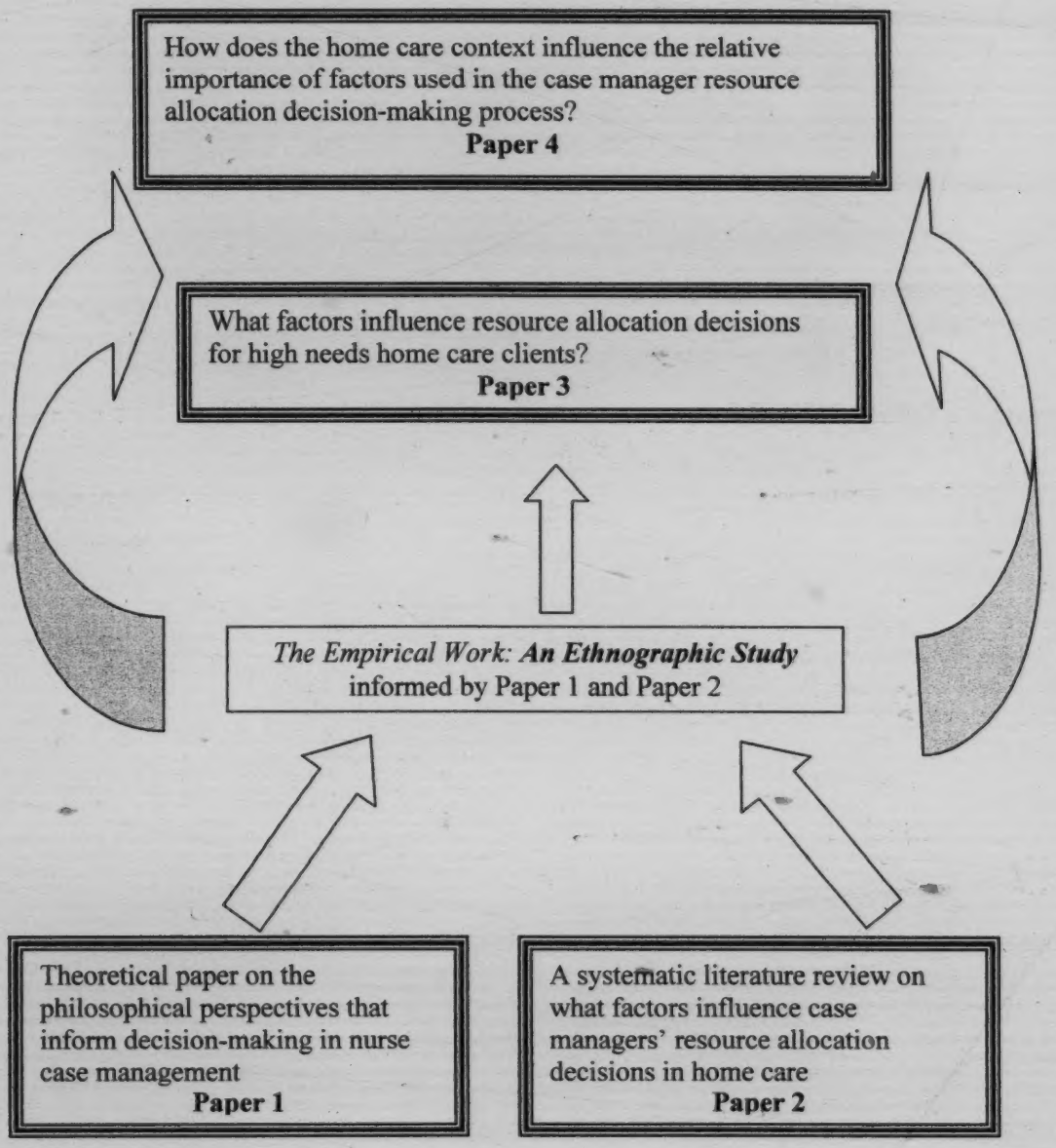
Design

The overall question guiding my work was: What influences case manager resource allocation decision-making in home care and how do case managers use this information in the decision-making process? There were three projects and four papers (Figure 2) involved in this work:

1. A theoretical paper (Paper 1, Chapter 2), a review and discussion of decision-making in nurse case management and three potential philosophical perspectives.
2. A systematic literature review (Paper 2, Chapter 3) addressing the question, what factors influence case managers' resource allocation decisions in home care?
3. The empirical study (Papers 3 and 4, Chapters 4 and 5) in which I addressed the following questions:
    a. What factors influence resource allocation decisions for high needs home care clients?
    b. How does the home care context influence the relative importance of factors used in the case manager resource allocation decision-making process?

Papers 1 and 2 informed my empirical doctoral work, while papers 3 and 4 are products of this work. The interrelationships between these papers and the specific research questions are shown in Figure 2.

Figure 2 The Four Papers: Case manager resource allocation decision-making in home care


How does the home care context influence the relative importance of factors used in the case manager resource allocation decision-making process?
Paper 4
What factors influence resource allocation decisions for high needs home care clients?
Paper 3
The Empirical Work: An Ethnographic Study
informed by Paper 1 and Paper 2
Theoretical paper on the philosophical perspectives that inform decision-making in nurse case management
Paper 1
A systematic literature review on what factors influence case managers' resource allocation decisions in home care
Paper 2

Methods

The key elements of the methods and procedures used for Paper 1 and Paper 2 are reported in Chapters 2 and 3 respectively. This section provides an overview of the methods chosen for the ethnographic study. I chose an ethnographic method, specifically ethnoscience in the tradition of Spradley (1970, 1979, 1980), to uncover the factors that influence case managers in making resource allocation decisions for home care clients. Ethnoscience is useful for uncovering socially constructed knowledge about a group's behavioural norms and the meaning its members ascribe to their practices. The goal of ethnoscience is to uncover an insider's description, specifically based on the language *they* use and how they use their language to categorize their everyday world. A key assumption underpinning ethnoscience is that a group's culture is carried on and shared through language. Ethnoscience therefore allows a researcher to study a group's culture through their own language and linguistic structures (Morey & Luthans 1984; Spradley, 1979). Ethnoscience, which became popular in the 1950s and 60s, has roots in anthropology and symbolic interactionism (Evaneshko & Kay, 1982; Spradley, 1979).

Symbolic interactionism is a theory useful in the study of group life and human behaviour (Blumer, 1969). It guides our understanding of the way that people interact with their environment, specifically through the use of symbolic communication that allows shared meaning to develop (Milliken & Schreiber, 2001, p. 178). The three main premises of symbolic interactionism are that people's reaction and action toward things are related to the meanings they have assigned to them, their meanings of things are derived from social interactions, and discovering meaning is an interpretative process (MacDonald, 2001).

The primary techniques of ethnoscience are interviews and card sorts. These techniques are used because they are language-oriented and make it possible to uncover both explicit and tacit knowledge of a particular culture. In this study, I used the Developmental Research Sequence (DRS) approach developed by Spradley (1979; 1980). In this approach, Spradley (1979) outlines a specific format for questioning and data analysis that guides the researcher in producing a validated taxonomy and a full and rich insider's description of the behaviours of a specific group or culture. To add to my understanding of case manager resource allocation decision-making, I also used general ethnographic methods such as participant observation and focus groups. Specific data collection and analysis techniques are provided following a description of the setting and sample.

Setting

This study took place within Capital Health's Pediatric Home Care Program in Edmonton, Alberta. The Capital Health (CH) Home Care Program provides a range of home care and support services to people living in their own homes throughout the greater Edmonton region. After this study was approved by the Health Ethics Review Board at the University of Alberta, I obtained administrative approval from the health region. Participants were recruited using a poster (Appendix 1), an information letter (Appendices 2 & 3), and at information sessions about the project facilitated by the researcher.

Sample & Data Collection

After obtaining informed consent (Appendix 4) I collected data from case managers and program leaders in a specialized home care program for children who have

made, or have been involved in making, resource allocation decisions for higher needs clients within the past year. Case managers authorize a range of home care and support services based on assessed need. The services are delivered through contracted service organizations or through a self-managed care option. Clients with higher needs in the home care program were defined in this study as those who required more than $2000.00 per month for health care aide and/or licensed practical nursing services.

Participant Profile. I collected background information and education of the case managers using a demographic questionnaire (Appendix 5). Nine of the eleven case managers in this study held were baccalureate prepared nurses. Past experiences included a variety of hospital-based experiences, predominantly with children, including general pediatrics, pediatric and neonatal intensive care, pediatric oncology, labour and delivery. One case manager had no other nursing experience outside of this program. No case manger had any other case management experience other than with this program. In terms of experience as a case manager, three participants had three or fewer years, seven had four to ten years, one had between eleven and fifteen years of case manager experience. None had formal case management education. They learned about case management as part of their orientation to the home care program and subsequent mentorship from more senior case managers.

Sampling, Data Collection, and Analysis Procedures

I interviewed and observed home care nurse case managers and program leaders who have made resource allocation decisions for children with complex needs. Interviews were carried out in a private area in the home care office during their regular work day. Purposive and maximum variation sampling (Patton, 2002) directed data collection. To

achieve sample variation, I identified a variety of diverse characteristics such as length of time as a case manager, educational preparation, and background. Data accounts were highly detailed descriptions of unique cases, as well as shared patterns of behaviour that cut across cases.

Spradley's Developmental Research Sequence (Spradley, 1979) guided my simultaneous data collection and analysis in four rounds of data collection. Round 1 consisted of semistructured interviews using descriptive questions. Round 2 consisted of interviews using structural and contrast questions and card-sorting in which participants were asked to "think aloud" during that process. Round 3 consisted of targeted interviews with specific structural and contrast questions derived from our iterative data analyses. Sampling progressed as data were analyzed, as long as participants continued to provide me with further information about decision-making or resource allocation and until I was able to write a full narrative description about the topic. All interviews and card sorts were audiorecorded and transcribed verbatim. Interviews and interviews with card-sort activities lasted between 45 and 90 minutes per session. Please see Appendix 6 for my Interview Guide. The details of each round are provided below.

Round 1 – Interviews. In Round 1 the interviews started with an opening question such as, "tell me how you go about making decisions about resource allocation or authorization for services?" Or, "walk me through the last resource allocation decision you made." The questions were more specific as the interview progressed and participants were asked to provide more detail about their decision-making. A domain analysis was completed after the initial three interviews and words that represented the factors that were identified as influencing decision making were placed on a card. All

codes for card sorting by case managers in the subsequent interviews of Rounds 2 and 3 were derived from the coding in Round 1.

Round 2 - Card-Sorts and Interviews. In Round 2 card sorts were used to determine the ways case managers classify and use various sources of information (factors), and how they order their knowledge. Participants were asked to do two sorting exercises. The first time they were asked to do at least two piles and the second time to do at least one more pile that the first time. They were asked to create the piles based on similarities and differences of the terms. This was used as a means to generate contrasts among the terms. They were asked to "think-aloud" as they did the card sorting. Case managers were asked to name their piles with an appropriate descriptive term. Blank cards were available to create any terms they believed to be missing. The blank cards were rarely used. When I was asked for clarification for the card sorts, beyond my initial explanation, I used examples that were not related to the study in order to minimize bias. For example, to explain the activity I used an apple, a carrot, and an orange. I asked how might you group them considering their similarities or differences? What makes them different? What makes them the same? I collected the cards from each card sort and stored them by piles, noting whether it was from the first or second sort. In addition, I took a picture with a digital camera of the cards following each card sort to assist with reviewing their placement and as a precautionary measure in case cards were accidentally mixed up. A pilot test of the card sort method was done prior to going out into the field to ensure that my explanation of the activity was clear, that I was able to keep the piles organized and intact, and that I got a clear digital picture of the card sort for use during the analysis.

Round 3 – Interviews. Round 3 interviews were highly structured and based on the ongoing analysis. I used structural and contrast questions to elicit specific information. Participants were shown the developing taxonomy and questions were used to seek clarification and verification of my ongoing analysis.

Round 4 - Focus Groups. I had two focus groups that followed the interview data collection phase with 7 case managers, 2 of whom were new to the study at that point. The focus groups were carried out in the home care office. The sessions were audio-taped and transcribed.

Participant Observation. I did participant observation over a 5-month period during general rounds, grand rounds, nursing meetings, team meetings, and inservices in the home care office and shadowed 2 case managers for specific targeted events. Where clients were present during the observation phase of the study, the case manager described the study to the parents, explained that I would be observing the case manager during the visit, and obtained permission from them for me to be present. I then provided and reviewed an information sheet about the study (Appendix 7) and obtained informed consent (Appendix 8).

Participant observation provided another source of data. It allowed me the opportunity to observe how case managers collect information that supports their decision-making as well as to look for congruence between what case managers said they do and what they actually did. Periods of observation were planned around events and activities where I was able to observe either episodes of resource allocation decision-making or discussions of such decisions already made or pending (Appendix 9). The detailed field notes from these sessions, totalling 27 hours, were part of the data set. I

spent large blocks of time making observations in the home care office (i.e., 3-5 hours), going on home visits, or sitting in meetings over a five month period that occurred concurrently during Rounds 2 and 3. I shadowed two case managers on client visits and hospital rounds. I was a non-participant observer and documented and audio-taped observations throughout my observation time. I was a non-participant observer because I strictly observed. I did not engage in the case manager's work or enter into discussions that occurred during my periods of observation. The need for subsequent participant observation sessions was determined based on the obtained data, its analysis, and in consultation with my supervisor and committee.

The participating case managers were provided with theoretical developments as the study progressed for the purposes of verification and validation. The taxonomy was considered complete when I did not hear anything new, information was repeated, and I did not see any new patterns in the data. Table 1.1 illustrates the sample and the order of data collection and analysis.

Detailed written, or audio-taped and transcribed, field notes were taken following all interviews, periods of participant observation, and focus groups. These field notes were also sources of data. I kept a field work journal where I recorded detailed memos at all stages of the project. Memoing had four main purposes in this study and was used extensively. These purposes were: 1) to identify my beliefs and assumptions (personal memos), 2) to record theoretical (theoretical memos) development, 3) to record methodological developments and decisions (methodological memos), and 4) to reflect on the data (observational memos). The memos were in the form of anecdotes; questions

posed, or detailed descriptions. They were dated, filed and cross-referenced as they become part of the final analysis and formed my audit trail throughout the study.

Table 1.1 Sample, Data Collection, and Analysis Rounds

Round	# Case Manager	Time	Activity	Questioning	Analysis
1	3	60-90 min	**Semi-structured interviews** *Field notes and memos*	Grand Tour Question **Descriptive** Questions	Domain Analysis Develop terms for cards to be used in card sort activity
2	6	60 min	**Semi-structured interviews** **Dyadic and Triadic Card Sort Activity** *Field notes and memos*	**Structural** Questions **Contrast** Questions	Taxonomic Analysis Componential Analysis. Began Thematic Analysis and Constant Comparison to analyze process data I was obtaining.
3	7	30-60 min	**Structured interviews** *Field notes and memos*	**Structural** Questions **Contrast** Questions	Componential Analysis Verification and refinements to full Taxonomy. Thematic Analysis and Constant Comparison to analyze process data I was obtaining.
4	7	60-120 min	**Focus Groups** (two different groups) *Field notes and memos*	**Contrast Questions** **Case Story Review**	Verification and refinements of full Taxonomy. Story and findings verified. Manager told me afterwards that case managers feel validated and that their work is important in taking part in this study.
Concurrent with Rounds 1, 2 & 3	Team	Over 5 months	**Non-participant Observation** *Field notes and memos*	**Field Notes**	Taxonomic Analysis Componential Analysis Thematic Analysis and Constant Comparison to analyze process data I was obtaining.

Transcribed interview data were verified with the audiotaped interviews for accuracy. I used NVivo 7, a qualitative data management program, to manage the data. I

used open coding to develop a preliminary coding scheme based on the first three interviews. This coding scheme was continually refined throughout the analysis.

Data Analysis

The analytic process was iterative throughout data collection and analysis and continued throughout verification interviews and the focus group with case managers. Data derived from interviews, card sorts, focus groups, observations, and field notes were analyzed simultaneously with data collection. Questioning encompassed principles and descriptive, structural and contrast questions (Spradley, 1979) in order that I was obtaining appropriate data conducive taxonomic development. Analysis began with the descriptive data obtained in Round 1 interviews. I did in vivo coding at this stage to develop the terms for the card sorting. Domain analysis served as a beginning point to organize and make sense of the data and to establish semantic relationships among terms. The data generated by using structural and contrast questions in Round 2 and Round 3 were conducive to taxonomic and componential analysis of the textual data and card sorts. Through triangulation of data sources (i.e., interviews, card sorts, and participant observations), I was able to form a cohesive picture incorporating what they said and what I saw. Similar stories were told by program leaders and case managers from varied backgrounds and with varied experiences. The findings were sound and are represented accurately and appropriately, as confirmed in final verification interviews and a focus group with participants. Further details on this analysis are in my Operational Guidelines for Analysis document in Appendix 10.

Additionally, thematic analysis and constant comparison was used to uncover cultural themes and resource allocation decision-making processes of case managers. The

themes and processes were not always at the level of tacit knowledge. However, they were recurring in the interviews and observation sessions throughout the study. The cultural themes were the bigger picture, beyond the taxonomic developments that were observed in the processes case managers used to make resource allocation decisions. The description of the themes was created by observing and interpreting recurring patterns (thematic analysis) in the data. Spradley (1979) states that cultural themes may be found at various stages of data analysis, including the development and refinement of the final taxonomy and that was certainly my experience in this study.

I also employed constant comparison techniques in my analysis to further uncover what was going on in terms of case manager resource allocation decision-making processes. Relevant literature was reviewed concurrently with data analysis. Several theoretical positions about decision-making provided pertinent and valid information throughout data analysis. I also considered the results of the systematic review (Fraser & Estabrooks, in press), and existing theoretical frameworks that were appropriate to situate my work.

Data were managed several ways. Because I followed Spradley's (1979) developmental research sequence, electronic means were only be used to assist me with data management, coding, and categorizing. The analyzing and theorizing was performed using my own conceptual and analytic skills and were primarily a manual process using oversized paper, sticky notes, bulletin boards and white boards to allow me the space to work and manipulate the data as analysis occurred.

Strengths and Limitations

The strength of ethnoscience lies in its ability to uncover meaning as defined by the participants of a culture, particularly how the members of a group use *their* language to share common meaning. It uncovers *their* understanding in *their* words, rather than the researcher's understanding and words. Ethnoscience is useful when there is little or no knowledge about a phenomenon (Leininger, 1970), which makes it appropriate for the study of case manager resource allocation decision-making.

One limitation of ethnoscience in this study was that it does not handle process data well. Therefore, other activities were used and are explained more fully in the methods section of this chapter, and in the methods sections of Paper 3 and Paper 4. Examples of other methods I used to overcome the limitations of ethnoscience that I experienced in this study were participant observation as a data collection strategy and constant comparison as an analytic strategy to handle the process data. Incorporating other broad ethnographic approaches, as I have done, is congruent with Spradley's approach to ethnoscience as well (1970, 1975).

This study was carried out in a pediatric home care program within one health region in western Canada. This is one home care context and the findings ought to be considered in light of this context. In order to promote credible findings that might be applicable in similar contexts, I attended to the rigor of this study in several ways.

Rigor

Because the researcher is the instrument in qualitative research, it was important to be aware of any preconceived beliefs and theoretical ideas that I held about the study and to be self-aware and reflective in order not to let those beliefs and ideas influence my

study. I used the four criteria that Morse and Field (1995) identify as measures of rigor that qualitative researchers must address in order to promote credibility or trustworthiness of their findings. I will briefly describe them and how I addressed them in my study.

The first criterion is credibility, which refers to the ability of the study findings to 'ring true.' I addressed this by sampling to ensure variation among case manager characteristics. I had a wide range of heterogeneous participants in my study (i.e., young, mature, those with a variety of experience in making decisions, long-term employees, and short-term employees). I was also engaged in the field for a prolonged period in several settings. I pursued as many contrasts as possible in the data to ensure a full and complete taxonomy. I had regular debriefings and reflection sessions with my supervisor, committee, and a peer. During these sessions we discussed emerging findings and I was challenged to look at other possibilities in the data.

The second criterion is transferability, or the ability of these findings to be applied in other contexts. To meet this criterion, I provided a detailed description of the home care program I studied, as transferability of findings depends on the similarities between contexts. I attempted to be as open and as descriptive as possible so that readers can assess the similarities of this context to their own. Additionally, I purposively sampled to include a wide range of information from the various settings where case managers carry out their work, that is, at their office, at the hospital, during rounds, by shadowing, and at meetings and on home visits.

Dependability, the third criterion, refers to the likelihood that the findings in this study would be consistent, or dependable, if the study were replicated. To address this criterion, I kept a detailed audit trail where details of all research activities were

documented and were cross-referenced. This will be useful in replicating this study in future studies. I used four types of memos: personal memos, where I identified my beliefs and assumptions; theoretical memos, where I recorded theoretical developments; methodological memos, where I recorded methodological developments and decisions; and observational memos, where I reflected on the data.

Confirmability, the fourth criterion, is the degree to which the findings are a result of the study and not due to some other factor, such as the bias of the researcher. To meet this criterion, I documented my personal beliefs, notions, and ideas prior to beginning the study. Additionally, I was interviewed by a committee member prior to beginning the study. This was helpful as a way of capturing any preconceived beliefs and ideas that I may not have been able to capture through recording in a journal the beliefs and thoughts I *thought* I might hold. After I transcribed and analyzed that interview, I reviewed the findings with my committee before I entered the field. I kept detailed notes of all raw data and time in the field. I systematically tracked all interview and observation rounds. I took digital pictures of card sorts, in addition to taking notes on card sorts. I was careful to spend only enough time in the field to get what I needed, typically 3–4 hours, while leaving ample time to write up my field notes and observations. As my findings evolved, I shared them with participants in verification interviews, as well as in group sessions, to ensure that I was capturing *their* perspectives and meanings rather than my own preconceived notions or ideas. I read them the case story created by the many data sources to ensure accuracy.

To ensure that the development of my taxonomy, case report, and descriptions were logical and could be followed, all documentation was dated and cross-referenced to detail

the procedures that I followed, the decisions I made, and the insights I had. These procedures allowed me to have confidence and trust that I was creating a parsimonious study that links all concepts and results in a full explanation that, although abstract, remains embedded in the context.

The Four Papers: Products of this Dissertation

***Paper 1**: Decision-making and Nurse Case Management: A Philosophical Perspective*

Citation: Fraser, K.D., & Strang, V. (2004). Decision-making and nurse case management: A philosophical perspective. *Advances in Nursing Science, 27*(1), 31-42.

This paper is a review of the literature, in which we address what is known about decision-making and resource allocation in home care case management practice from the unique perspective of nursing. In this paper, I presented an overview of case management and home care, case management as it pertains to nursing, decision-making and resource allocation within case management, and decision-making issues within case management, and then reviewed three philosophical perspectives that could inform home care resource allocation. Case managers in publicly funded home care programs serve both as client advocates and system gatekeepers and are driven by goals that are client-centred or system-centred. These competing goals, at times, create dilemmas for case managers and influence their resource allocation decisions.

This paper was the product of an independent study I carried out, under the supervision of Dr. Vicki Strang, entitled "Home Care as a Setting for Health Care Delivery: Issues Related to Policy, Resource Allocation, and Outcome Measurement" (Fraser & Strang, 2004).

***Paper 2**: What Factors Influence Case Managers' Resource Allocation Decisions? A Systematic Review of the Literature*

Citation: Fraser, K., & Estabrooks, C. (in press). What factors influence case manager resource allocation decision-making in home care? A systematic review of the literature. *Medical Decision Making*.

In Paper 2, I did a systematic literature review directed by the following question: What factors influence case manager resource allocation decisions? In this review, I was able to develop a preliminary taxonomy of factors that influence case managers' resource allocation decisions. The factors in the taxonomy were grouped into one of four main categories: client-related, case manager-related, information-related, or system/program-related. There was little, and little robust, literature. Although the taxonomy was a useful beginning, the results were limited and equivocal because of the state of the science in this area. This pointed to a need for further development as well as work to verify the findings in this paper. This paper is in press (Fraser & Estabrooks, in press).

***Paper 3**: A Taxonomy of Factors that Influence Case Manager Resource Allocation Decisions in Home Care*

Citation: Fraser, K.D., Estabrooks, C.A., Allen, M., & Strang, V.A. Taxonomy of Factors that Influence Case Managers' Resource Allocation Decisions in Home Care (to be submitted).

This paper is the first report of the findings from my empirical work designed to answer the following research question: What factors influence case manager resource allocation decision-making in home care? It represents the first empirical identification and classification of these factors. This paper highlights and addresses the similarities and

differences between the expected taxonomy (described in Paper 2) and the observed taxonomy (the empirical findings). The family emerged as playing a much more significant role than reported in previous research in influencing resource allocation decision-making. This is an important contribution, as case managers typically do not allocate resources to families, whereas in this study it was clear that they could not consider the client's needs without also considering the family's needs. The health care team and team decision-making were also shown to be significant factors that affect resource allocation decision-making.

The findings of this study are discussed within Daniels and Sabin's theoretical framework of *Accountability for Reasonableness* (Daniels & Sabin, 2002), which provides a basis for ethical decisions. Case managers strive to make reasonable and transparent decisions. Because of the increasing financial and human resource constraints inherent in this context, they do ration resources and set priorities for care (Varcoe et al., 2004). As well, they engage in reflective practice while attempting to balance relevant factors in each case in a decision that makes sense in a cost-constrained milieu where multiple choices and uncertainties abound. For these reasons, the accountability for reasonableness framework can aid our understanding and guide knowledge development in this particular ethical decision context.

***Paper 4**: Case Manager Resource Allocation Decision-making Processes: A Case Illustration*

Citation: Fraser, K.D., Estabrooks, C.A., Allen, M., & Strang, V. Case manager resource allocation decision-making processes: A Case Illustration (To be submitted).

This is the second paper based on my empirical study. In this paper, I illuminated the decision context from the perspective of Rosie, a case manager, as she worked through the resource allocation process with a client and her family. I used a case study approach to illustrate the complex and multidimensional nature of the process as Rosie balanced and weighed the factors in relation to the family. All names, dates, and any identifying information were changed to protect the identities of actual persons.

The key theoretical findings in this paper are the balancing and weighing of the factors in an inherently relational process. This case study illuminates three themes in case manager resource allocation decision-making: the notion of the family as client, the messiness in the decision process, and the role of the collective wisdom of the team. Current home care policy does not reflect the needs of families, but rather the needs of the individual client in the allocation of home care resources. The exemplar case identifies the possibilities for societal benefit by explicitly recognizing and supporting the role and contribution of the family in meeting complex care demands. The questions "Can the family do the care and will the family do the care?" separate two phases of the resource allocation process. Phase 1 is a time of information gathering and observation undertaken with both the client and the family. In Phase 2, the case manager seeks more detailed and specific information, keeping in mind that things can often change up until the last minute. The case manager deals with many unknowns and uncertainties throughout the resource allocation process, often until well after the client is home. The case manager must constantly be aware of and sensitive to the interplay of factors in both phases as he or she works to balance the factors. By consulting with the health care team,

case managers can reflect on their own perceptions and judgments, deliberate about their decisions, or ask for advice on their decisions.

This paper revealed the essential contribution of the collective wisdom of the home health care team in the resource allocation process. The structure and functioning of this team can mitigate case managers' individual balancing and weighing of competing factors and can lead to a subsequent decrease in variance, something often reported in the case management decision-making literature (Corazzini, 2000; Hirdes, Tjam, & Fries, 2001).

Summary of Dissertation

The primary question guiding me throughout this work was: What factors influence case managers' resource allocation decisions and the process in which they occur? I used the three projects/four papers in this dissertation to answer this guiding question in four distinct ways. I illuminated nurse case management decision-making from a theoretical perspective and portrayed gaps in our empirical knowledge through a systematic review in the first two papers. The knowledge gleaned from these two papers guided the specific research questions and the methods for the empirical study. In the third paper, I identified and classified the factors that influence case manager resource allocation decisions. In my final paper, I illustrated the influence of the family, the phases of the process, and the power of collective wisdom on case manager resource allocation in the home care decision context.

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Chapter 2

Paper #1 - Decision-making and Nurse Case Management:

A Philosophical Perspective

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Decision-making and Nurse Case Management: A Philosophical Perspective

Home care is changing rapidly within an environment of health care reform, an aging population, and economic constraints. Programs are expanding to meet the increased demands created from several sources. These include decreasing numbers of beds in acute care, increasing wait-lists for long term care, increasing numbers of children and young adults with complex physical [1] and mental health care needs living in the community and an increasing aging population particularly in the 'old-old' age bracket when frailty and health issues are more prominent [2]. With increasing demand for home care, the issue of resource allocation, particularly financial resources, is gaining more attention from managers, policy-makers, politicians, academics, and practitioners. Resource allocation mechanisms and the associated decision-making processes are recognized for their complexity and are frequently not explicit enough to adequately guide decision-makers whether it be at the managerial level or at the clinical front-line.

In this paper the issue of decision-making related to resource allocation in home care case management practice from the unique perspective of nursing will be addressed. The particular challenges of decision-making within nurse case management practice in home care will be highlighted. It will be argued that moderate realism [3] because of its practicality and grounding in reality, is the most appropriate perspective to inform our understanding of these issues.

Case Management and Home Care

Smith and Smith [4]outline case management as a process intended to facilitate access to health care services. It includes assessment, planning, co-ordination, delivery, and the monitoring of services provided to individuals and families. The goals of case

management are cost containment while maintaining quality of care and managing complex internal and external relationships related to service delivery [5, 6, 7].

Historically, the notion of case management within a milieu of managed care emerged in the early 1990's as a major force in organizing health care service [8]. Managed care, a term often used in concert with case management, has become a "generic label without a clear, universally accepted definition and is most commonly operationalized through the process referred to as 'case management'" [8 (p. 81)]. Kersbergen [9] defined managed care as a business framework for organizing the delivery of health care services while controlling service and resource utilization through incentives to control costs and decision-making based on business parameters. It was described as a means to gain better control over costs and management in the process of solving health care problems and providing better health care services [8].

As this managed care framework became more prominent, more and more care was transferred from hospitals to community-based services. Home care programs expanded and offered increasingly diverse, complex, and expanded services and it used case management as a means of allocating resources for the delivery of these services. Although various professionals including social workers, physiotherapists, and occupational therapists can carry out the various roles of case management, in home care, case managers most often are registered nurses with baccalaureate degrees [4]. According to these authors nurses are often seen as particularly suited for case management roles because of their broad range of assessment and coordination skills related to health. In this paper, therefore, the relationship between case management and resource allocation decision-making will be considered from the unique perspective of nursing only.

Subsequently, the term 'case manager' and 'nurse' will be synonymous and used interchangeably.

Case Management and Nursing

Nursing was quick to embrace case management as it was seen as an opportunity for nurses to influence the health care system, to keep the nursing perspective visible, and to have increased authority to improve quality of care [8]. Although case management was even recognized as a form of advanced nursing practice [6], tensions within case management practice soon emerged. The case management process, similar to the nursing process, involved assessment of client needs, planning of care, allocation of resources for the services required to meet those needs, and ongoing coordination, monitoring, and evaluation of the care provided. According to Cesta and Falter [10] and Padgett [6] when these components are taken together, the primary goals of case management, that is, providing quality client care while containing costs within the health care system, are achieved [10]. It is this embedded duality of both client-centered and system-centered goals, however, that frames the primary cause of the ethical dilemmas faced by case managers [6].

To expand, client-centered goals [6] of case management are to promote well being, optimize individual health status and functioning, and help the client achieve mutually agreed upon outcomes of care. The coordination of services ensures clients receive the right services, at the right time, by the right provider. Quintessential to successful case coordination is the quality of relationships between case managers and their clients/families and the clarity of communicating the plan of care to other health care providers involved with the provision of care [4,11,12]. The achievement of the client-

centered case management goals is possible only if integrity is maintained within these relationships and communication patterns. Additionally, when required, case managers also play an empowerment and advocacy role on behalf of their clients [6].

System-centered goals, on the other hand, focus on cost-efficiencies and cost-containment, policy directives, eligibility criteria, and utilization patterns. Cost-efficiencies are achieved when the best possible care in the most efficient manner is provided. Cost-containment is controlling the care that is delivered within a limited and set amount of dollars. Policy directives and eligibility criteria are intended to guide the case manager's decision-making about resource allocation or service delivery. Utilization patterns assist case managers in their overall planning and budgeting process.

The client-centered and the system-centered goals appear in direct conflict with each other yet case managers are accountable for both [6,7,8,9]. Conflicts arise in cases where clients may believe they need additional services, while case managers balance those requests against program standards, norms, and individual eligibility criteria. Case managers must judge individual client needs against the available resources within a specific plan of care and the entire home care program. The dissonance arises when case managers fully appreciate the extent of client need while recognizing the limited resources available to them to meet those needs.

Additionally, a diversity of complex skills and knowledge is required to be successful as a case manager. Kersbergen [9] identified these skills to include abilities to advocate for clients, collaborate with clients, families and other health care workers, assess and plan for client service needs efficiently and accurately, delegate, negotiate, analyze costs and benefits of care, understand the provision of services across the

continuum of care, predict client outcomes, collect and evaluate outcome data, and understand financial data and business planning. It is the recognition of the ethical components in the performance of these skills that increases the discord within case management practice and affects how decisions are made and how resources are allocated.

Decision-making and Resource Allocation within Case Management

Complex decisions are made within every step of the case management process; i.e., assessment, planning, coordination of services, and evaluation and discharge. At each step case managers consider the resources available to them while making decisions that are the most appropriate to the particular situation and which directly affect the type and quality of services to be delivered. Resource allocation encompasses more than just the distribution of dollars. It includes the means by which the services are to be delivered, the types of services that are to be provided, and who will provide them.

The breadth and depth of this home care perspective are evident in the type of decisions a case manager must make. For example, decisions are made around the following types of questions: will services be directly provided by home care or will they be contracted to another agency; what type and number of personnel are available to provide services – professional and/or support services; which services can be delegated to unregulated workers; how much time is to allotted for particular tasks; how long is a client eligible for services, and what type of supplies and equipment are necessary for the services to be delivered? Within home care, it is the case manager who makes these decisions. It is the case manager who authorizes the services and it is within the case management process that the allocation of the associated resources is determined.

When making these kinds of decisions case managers are juggling many competing factors, all with varying levels of importance depending on who and how these factors are interpreted. The case manager must evaluate the rival components and make judgments that are suitable to meet client's needs while remaining synchronous with the cost containment goals of the health care system. This results in extensive variation in the decisions that are made.

It is recognized that case managers do have certain tools such as service eligibility criteria [13], care maps, clinical pathways, and peer consultation to assist them in this decision-making process [8]. Eligibility criteria are explicit criteria that dictate whether a client is eligible for a home care program. Clinical guidelines and protocols, care maps, and clinical pathways are terms that are often used interchangeably, most often referring to guidelines and standardized care protocols for a given condition or functional ability. They are tools that assist the case manager in predicting level of resources for a given client state. Although these tools are invaluable supports and act as important guidelines, in the end, case managers are essentially on their own when it comes to the actual decisions that must be made relating the services that will be provided and the types of workers who will provide those services. Additionally, these supportive tools have been developed using the best available evidence-based practices and the latest research. The intention for their use in case manager decision-making is to decrease variance among case managers so that the best possible outcome is possible [8,14]. However, case managers, in their efforts to be responsive to client need may modify these standardized tools to fit unique client situations. These individualized modifications, although well intentioned, then result in further variations in decision-making.

Decision-making is an intricate and convoluted process. Thompson [15] describes decision-making as nonlinear in nature and is the process by which nursing knowledge is operationalized into practice. Decision-making is often described as an either/or process [3,16]. In nursing and in case management, however, decision-making is uniquely situated and embedded within the context of practice making it difficult if not impossible for nurses and case managers to use an either/or prescriptive approach. Rather, Thompson contends that decision-making should be regarded on a continuum, not as an either/or process [15]. Thompson claims that both the humanistic-intuitive approach and the systematic-rational approach are insufficient on their own as a means to understanding "decision-making and by implication the information used as the basis for nursing decisions" [15]. It is, however, important to note that both contribute to the decision-making process. The way the pendulum swings on the continuum is dependent on many influencing factors including context, client assessment data, and budgetary restraints. The continuum paradigm is similar to the approach suggested by Kikuchi & Simmons [3] as they discuss the moderate realist perspective in clinical judgment. This will be explored further in subsequent sections of the paper.

Although the individuality of clients creates the opportunity for creativity within case manager decision-making process [17] decision-making within home care also presents challenges as case managers seek to achieve consistency, appropriateness, and equity among their clients. These challenges are evident when what seems appropriate for one client might not be suitable for another although both have similar health concerns. One client might require considerably more services than another in order to facilitate a similar outcome perhaps due to such factors as variable levels of informal family support

or the cognitive and/or physical abilities of the client or their spouse. Hence, home care case managers must rely on reasonable judgment [18] and common sense when making decisions about the services they will provide to their clients, in addition to having excellent assessment skills. This discretionary practice is required to meet individual client needs; but it also leads to further inconsistencies amongst case managers resulting in fragmentation and perhaps inappropriate delivery of services.

Decision-making Issues in Case Management

In discussing the juxtaposition of decision-making with regard to resource allocation in case management, a number of issues become evident. The most common ones are focused in the areas of ethics and economics as they relate to the practical aspects of the authorization and delivery of services. Ethical dilemmas revolve around the equitable and fair distribution of resources particularly as they relate to a case manager's interpretation of system-centered goals verses client-centered goals. Economic issues arise when budgetary restrictions within the health care system constrain case managers in making decisions that may not be the most appropriate to meet client need. Practical issues are related to the variance in nursing judgment and the fact that the decision-making tools available to home care case managers are guidelines only and are not intended to be prescriptive in nature.

The ethics in deciding the equitable and fair distribution of resources related to the provision of appropriate levels of service and health care providers are influenced by several factors. The expertise and personal belief systems of case managers, the social and family networks of clients, the health status of clients, the manner in which the case is presented to the case manager, and geography may influence resource allocation

decision-making by case managers [14,19]. For example, if case managers perceive that family members are *unable* to provide informal support, they may offer different levels of service than if their perception was the family members *unwillingness* to provide that support. Or, case managers may tend to be more sympathetic to difficulties within family caregiver situations perhaps because of personal experience and may make quite different decisions than case managers who have not had such personal experience. Within a framework of fairness and equity the over-riding question remains, are the services allocated in such a way that the needs of all clients are appropriately met? Are case managers making decisions reflecting the right amount of services and the appropriate level of care provider to meet the needs of their clients? The dilemma lies in how these decisions are made because they directly influence the resources consumed within home care programs.

Economic issues emerge at both the client and the system levels. At the client level, issues arise when home care policies dictate capitation per client, particularly in situations where clients with high needs exceed the established limit. Case managers must then decide whether they are willing and resourceful enough to advocate on behalf of such clients for the additional required resources. For case managers such efforts can be time consuming and complex with no guarantee of success. Within the health care system, where home care budgets are finite and perhaps under-resourced [14,20] case managers are acutely aware of the direct relationship between limitations within budgets and the client services they authorize. They are required to make decisions that keep services within budget all the while recognizing that these may not be adequate to meet client needs. How successfully case managers navigate through these thorny issues is

grounded in their expertise and mastery of the skills as outlined by Kersbergen [9] and profoundly influences the resource allocation process.

The practical issues emanating from these complexities also influence how resources are allocated. The variance among case managers in the decisions they make about allocation of services [21] is particularly problematic. This variation can be linked to the education and expertise of case managers [9]. It can also be related to such factors as the individual case manager's interpretation of a client situation or the rural, urban, remote locations of home care programs. For example, what one case manager, in one setting might interpret as an appropriate level of service, might be interpreted as entirely inappropriate and inadequate by another case manager in another environment. Because decision-making about service allocation occurs at the individual case manager level, the risk for inconsistencies in resource allocation is high. It is the individual case manager who has to interpret the information gathered from the various decision-making tools being used in consideration of the unique client data gathered at the time of the assessment. For example, although eligibility criteria policies and guidelines might be in place in a particular home care program, how they are understood and used by case managers within that program might be quite different. The outcome for clients is that the services they receive are dependent on which case manager has assessed them; one case manager might authorize services while another might not. Such practical issues create enormous education and policy challenges for home care organizations, all with significant implications for resource allocation. There are great variances both in home care budgets and in the type and quality of services being provided to clients.

These case management decision-making issues have a significant impact on clients being served and on the available resources of the home care program in general. By highlighting the extent to which these issues influence both the quality of client services and the availability of resources within home care programs, the need to explore the philosophical underpinnings that might shed some light on these issues becomes evident. To interpret these issues from a philosophical perspective and to find possible reasons for their existence may provide home care case managers support, direction, and guidance as they continue in their efforts to appropriately meet the needs of clients within the constraints of limited resources.

Philosophical Considerations in Home Care Resource Allocation

Various philosophical perspectives could inform us about the issues outlined in previous sections. In this paper the discussion is limited to three such perspectives to include critical theory, feminism, and moderate realism. Critical theory and feminism are more prevalent in the nursing literature [6,22,23] than moderate realism, and have significantly influenced decision-making in terms of resource allocation and the nature and scope of home care in general. Moderate realism [3], on the other hand, is an emerging philosophical stance that is presented here as a more suitable conception for nursing decision-making. It gives consideration to the sensible modification of rules and principles that out of necessity must be done by case managers from time to time so that a 'fit' with specific practical circumstances can be accommodated. Hence, it allows for the intentional and planned inclusion of both client and system perspectives in the decision-making process within the home care context.

Critical Theory

Critical theory, emerging out of the Frankfurt School in Germany in the 1930s, is gaining significant influence within the nursing discipline [24]. Its main features center around domination, power, transformation and dialogue [25]. From the perspective of historical determinism, critical theory articulates a process of defining a multiple reality in the 'present' so that liberation from past entrenchments can occur. The domination of history and past events need not continue into present circumstances. Through dialogue, reflection, and informed understanding among people, new emancipatory and liberating actions can occur. Within these interactive processes, the new knowledge and insights gained are always contextually and socially situated [26]. Within critical theory, there is no one universal truth! Rather, in the process of continually searching for a deeper understanding of unique circumstances and the meaning of individual experience through emancipatory discourse, new knowledge is generated [26,27].

At first glance, it would appear that critical theory lends itself well to interpreting the interactions that occur within case management practices in home care. The discourse that occurs between and among clients, case managers, assorted health care workers, supervisors, families and policy makers is complex with potential for domination by a powerful few. Those making decisions regarding the allocation of resources can be seen as having particular power. The ideal within this dynamic interactive state is shared autonomy and responsibility among the various players. However, difficulties emerge when determining, among the array involved players, where the power or the oppression is situated. From the client perspective, the case manager may seem all-powerful in the allocation or withholding the resources for

adequate service delivery. From a macro system perspective the case manager situation too may be seen as oppressed, being dominated by those in the system who establish the policies regulating the amount and method of resource distribution. There is a silence, however, within critical theory about the nature and quality of human caring, commitment, compassion and justice [28], the foundational components of the interplay among the various players within case management practice. Critical theory helps us to establish the nature of power within case management practice but it does not address the dynamic interplay amongst its various players.

Another criticism of critical theory, particularly in relation to case management practice, lies in its core valuing of the discursive and multiple nature of truth and its lack of attention to "the ethics of accountability" [28 (p. 384)]. In programs, such as home care, where service volumes can be large and resources finite, certain policies must exist to ensure equitable and appropriate distribution of available resources. Critical theory might influence the decision-maker to elucidate those factors that either facilitate or constrain decisions made about the allocation of resources. It might even promote emancipatory action where oppressed voices are heard. It does not, however, seem to help case managers integrate the multiple truths of the individual experiences within their practice with the rules and regulations, the enactment of the ethics of accountability, that guide their decision-making practices.

Feminist Theory

Feminist theory has also been gaining influence within the nursing discipline [24] as evidenced in the nursing literature. Feminist theory features gender inequality as central while seeking to understand the diversity of human experience [2]. In its more radical

versions, feminism asserts an emancipatory purpose, akin to critical theory, seeking to reveal injustice in the human experience, particularly the feminine experience [29]. From a gentler perspective, it aspires to speak to and be grounded in everyday life characterized by relatedness, contextual orientation, and subjective human experience [26,29]. Although we recognize that a feminist empiricist stance exists, the notion we are discussing is grounded historically in the work of Gilligan [30]. This notion recognizes that men and women engage in moral reasoning differently; men use more formal or universalistic procedures whereas women make more situational choices based on responsibility and commitment to others [2,24]. Given the diversity of feminist theory, there is unity in the general perspective that feminism seeks to improve the lot of women and that it is imbedded in idealism and optimism [29]. As well, there is unity in the idea that caregiving, whether it be formal or informal, is seen as the domain of woman's' work and is usually not recognized as highly valued productive work [2].

Because nursing is predominately a female profession, there is a particular resonance between feminist theory and nursing practice. Within home care particularly, a common experience is women nurse case managers interacting with women informal family caregivers in the home. Within the context of the home environment, it is women in dialogue with other women, each interpreting from their unique perspective the need for services, how those needs will be met, and each trying to decipher the others ability to provide those services. Ultimately, the decisions that must occur are made within these relational and contextual boundaries; that is, within the parameters of the system in which the service occurs.

Feminist theory can be helpful in interpreting certain aspects of the decision-making issues related to the allotment of services within home care. From its relational and contextual perspective, feminist theory helps explain why case managers struggle with the ethical dilemmas of having to make decisions about inadequate service authorization because of economic constraints. To be required to make decisions that could be interpreted as mitigating against the commitment and responsibility to the 'other', could generate significant moral dissonance and alienation within case managers. It could also be argued from a feminist perspective, that the 'poor cousin' status of home care within the larger health care system is linked to the notion that the work of home care is in the women's sphere of responsibility and therefore not requiring equivalent resources to the other male dominated sectors within the system.

Because of its foundational and historical perspectives of gender differences in moral reasoning, however, feminist theory does not adequately help to interpret the wide variations among case managers in their decisions about resource allocation among clients. It could be related to the fact that more men are entering case management practice and that more men find themselves in roles of informal family caregiving [12]. This seems unlikely, however, given the gradual gender shift occurring in nursing and therefore case management and in informal caregiving [31]. The notion that decisions about resource allocation are gender based with gender differences in the processes and outcomes of these decisions seems too narrow an interpretation. Given the contextual complexity of these decisions, some of the more strident articulations of feminism do not seem adequate in explaining the practicalities of resource allocation in case management.

Moderate Realism

Relative to critical and feminist theory moderate realism is a comparatively new philosophical influence within the nursing discipline. Moderate realism as articulated by Kikuchi and Simmons [3] addresses the influence of moderate realism on practical nursing judgment. They state that moderate realism is "a common-sense philosophy which attains its principles by reflecting on common-sense knowledge and reasoning therefrom in light of available evidence" [3 (p.44)]. Common-sense knowledge is described by these authors as judgments arising from our common sense that includes such knowledge formulated out of past experience, mere opinion, probable truths, and absolute truths. They identify three key canons of moderate realism. The first is that which is good for us meets our needs rather than our wants. The second is, despite an individual's experience and background, an objective view of reality is probably true. We know it to be probably true because we compare it with our subjective reality that our common sense tells us is true. Lastly, we judge our personal views against reality using our natural powers of conception, judgment, and reason basing our decisions on available reason and evidence. Realism is a philosophical approach based on the acceptance of reality as is, which then is acted upon accordingly within the context of the client, the parameters of the system, and the universal lifeworld as it exists. It is embedded in reality and rejects the impractical.

The moderate realism conception of justice supports the thesis that "nurses must consider both perspectives [those subjective principles of both the nurse and the client] in light of objectively true principles related to the pursuit of happiness by human beings and must ground their nursing decisions in those principles" [3 (p. 46)]. To do otherwise would be unjust. The objectively held principles of justice central to moderate realism are

natural needs, real goods, natural rights, and duties or moral obligations. According to the moderate realist conception, natural needs refer to those things in life we need, rather than want (i.e., good health), and that are naturally good for us. Real goods are those goods that fill our needs rather than our wants (i.e., water). Natural rights are those rights that we have by virtue of our humanness, rather than a legal right, for example the right to life, freedom, and dignity. Duties or moral obligations require us to act in a just and fair manner to ourselves and to others as we aspire to that which is good rather than evil or unjust. In order to make just decisions, knowledge of what is good for all humans is necessary, as well as knowledge of what natural rights and moral obligations we ought to consider is necessary.

The underpinnings of moderate realism have potential to help us understand the complexities of decision-making by case managers and the dilemmas they face in the process. It legitimizes the practicality of their decision-making processes within the context of home care practice. The context of this practicality is situated in the interactions with clients and families usually within their homes. Case managers become knowledgeable, at times intimately so, about this environment, the place where families live and where their priorities dominate. Case managers make their decisions in these personal places where control of activities lies with clients and their families, not with case managers. The decisions made by case managers, however, directly influence this personal domain of clients. It is this reality that creates the dilemmas inherent in the outcomes of those decisions. There is no nursing office or other private space for retreat to contemplate and review the information that has just been gathered. Case managers must quickly be able to recognize the resource limitations in the context of clients needs.

Within this context, they must think sensibly and practically, as they make decisions 'on their feet'.

A comfortable fit seems to exist between these practical environments of home care case management and the common sense perspective of moderate realism. It is the practicality associated with making decisions within the domain of clients and their families combined with a framework of resource limitations where the common sense notion of moderate realism is particularly appealing. It is appealing not only because of its natural apparent fit within the context of case manager decision-making, but also because of its emphasis on sense-making and on the practicality of a given context. Practicality and sensibility are embedded within the context of home care and the case manager role within that context. Moderate realism therefore draws upon the practical nature of decision-making within the home care environment. It supports case managers in their front-line decision-making. It guides their decision-making so that the outcomes are just, benevolent, sensible and sensitive to clients' values and wishes.

Another aspect of moderate realism that makes it an attractive perspective for home care is its position that common sense is unique and depends on an individual's life experience, perception, belief, and current reality. The notion of common sense is most evident in the negotiation process that occurs among clients, families, and case managers in their search for the appropriate levels of service. The dialogue of negotiation is a process where the two parties discuss their particular perspectives with a view to developing a common perspective acceptable to both. In the process a joint decision on a course of action is achieved [3]. Moderate realism indicates that case managers must consider both perspectives, i.e. both client and nurse perspectives. Although feminism

and critical theory also recognize the perspective of the client and the nurse, moderate realism promotes decisions that uphold those *objectively* held principles of natural needs, real goods, natural rights, and duties or moral obligations. Herein lies the edge that moderate realism offers to the home care context; while ensuring that objectively held principles are upheld, just decisions are embedded within the situation.

It is within the principle of duty or moral obligation where the domain of justice is both within and beyond the individual client and is also within the realm of the system as it relates to the client. The decision must be fair for the client, and also respect principles of distributive justice within the larger system. Case managers, in their decision-making, must secure the natural right of clients while operating within a system driven by an ideology cost containment and minimal acceptable service provision. To have enough resources so that all people in need will be able to secure those real goods to which they are entitled from the system is the justification for this minimalist belief. When case managers are required to make difficult even-handed decisions they are perhaps acting more from a justice rather than benevolent perspective. It is within the reality of case management practice that the principles of justice and the common good enter into all resource allocation decisions. In the spirit of justice and equity, individual need must be balanced with the common good in order that all clients in need receive adequate care. And it is the case manager who is caught in this tension between justice and benevolence. This tension intensifies because case managers are caught between their obligation to the individual clients they serve and their responsibility to society as a whole. The case managers desire to deliver excellent care on the one hand must be countered with the

general attitudes and values within society, such as the desire for lower taxation, that support the limitation of services.

Given the reality of these tensions, individual case managers carry enormous responsibility for the authorization of services and hence, the distribution of resources within home care programs. Yet, home care program administrators and policy-makers often believe that case managers make the best decisions about services because of the their intimate knowledge of client and family circumstances. This results in the variation in the decisions made by case managers mentioned earlier in the paper.

The decision-making processes within home care case management practice remain imperfect. Much work remains to be done in our efforts to reduce the imperfections and advance greater consistency within the decision-making process. Our knowledge of the intricacies of the decision-making processes within case management practice is limited. It is our responsibility to reflect on the reasons for these imperfections so that greater understanding of the process can be achieved. Home care case managers will then have the opportunity to be more confident and competent in their decision-making. A moderate realist conception has the potential to "give traction to nursing action" [3 (p. 52)] to enhance the decision-making process.

Implications for Education, Practice and Research

If the expectation is that case managers are to be autonomous in their role and be responsible and accountable for the outcomes of client care then it is imperative that the issues raised in this paper be addressed in the education, practice, and research related to case management. The realistic and practical perspective of moderate realism can inform us about the directions to take.

In education, colleges and universities are just recently offering formal courses in case management as substantive study content [10]. Although nursing faculties are beginning to respond to this case management knowledge gap, there remain many novice practitioners who have little understanding of the intricacies of case management practice. Kersbergen [9] reminds us that case management is here to stay and nursing education must be in touch with this reality. Content such as skill development in negotiation, delegation, outcome prediction and measurement, use of financial data and indicators, and cost analysis, traditionally presented mostly in business schools, must be included in nursing curricula. Practicum assignments or internships that place senior nursing students in environments where resource allocation decisions are made need to be encouraged. Such experiences could include practice with home care case managers or with the directors and senior executives in policy arenas.

In home care practice, educational opportunities for case managers to more fully understand their role, particularly in the area of resource allocation decision-making, need to be provided. Nurses must be given the tools that will allow them to perform in the case manager role with confidence and competence, to deal with the diversity, and to contextualize differences within home care practice. Case managers need confidence to know they will be supported in their decision-making by senior management when difficult choices have to made. Finally, there needs to be clear guidelines, appropriate policies, and adequate education that will support the role of case managers in their resource allocation decisions.

Lastly, the implications for research are many. One area to be examined is the role of case management and its "fit" within the nursing discipline. To investigate this area

might further illuminate the philosophical underpinnings of the nursing/case management duality in order to provide direction for education and practice of nurse case managers. Research into the effectiveness of nurses in case manager positions needs to be explored further. Specifically, how nurses engage in decision-making and resource allocation needs to be examined relative to other health professionals to determine differences and similarities. Finally, another vital area for future research is the examination of the evidence being used in resource allocation decision-making in terms of the nature and source of the evidence being used and how it is applied to decision-making processes.

Conclusion

With the growth of home care programs expected to continue, it is imperative that the issues related to decision making within case management practice be addressed from a nursing perspective. Moderate realism [3] has provided a philosophical perspective that allows a practical interpretation of these issues. To inform case management practice from this practical common sense stance may help nurse case managers be more confident in their decision-making. They can be reassured that they are acting in a just and caring manner while meeting both the client-centered and the system-centered goals of case management practice.

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Chapter 3

Paper #2 - What factors influence case managers' resource allocation decisions? A systematic review of the literature

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What factors influence case managers' resource allocation decisions?

A systematic review of the literature

Health care restructuring, a trend that began in the early 1990s, has significantly affected home care by creating a substantial increase in both the number of clients and level of acuity. Funding increases have not kept pace with this growth. Case management has been widely adopted over a relatively short period of time as a means to coordinate service delivery in home care. Case management is the practice of assessing client needs, planning care, including the allocation of resources for care required, and ongoing coordination, monitoring, and evaluation of the care provided while maintaining cost-effectiveness and cost-containment[1-4]. In publicly funded home care programs, case managers serve both as client advocates and system gate-keepers, balancing the needs of the home care client while maintaining system goals and cost-efficiencies. These competing goals, at times, create dilemmas for case managers and influence their resource allocation decisions[1,5].

Resource allocation decisions are complex, multi-faceted and occur at micro, meso, and macro policy levels. Micro-level decisions are those made by individual providers directed solely to individual recipients. Meso or macro level decisions are those directed toward entire programs or systems. A case manager's micro-level resource allocation decisions directly affect the level of service a client receives and, in the aggregate, affect overall program resources including the ability of a home care program to deliver equitable services to all clients receiving their services.

In this review, we address the question "what factors influence case manager resource allocation decision-making?" A better understanding of how case managers' resource allocation decisions affect client care will contribute, we argue, to understanding whether finite home care resources are distributed appropriately[6-8]. At present, though, there is little research available on what influences these important decisions by case managers[6]. In the absence of data about client outcomes, we see understanding the factors that influence these micro-level decisions as the first step in designing appropriate intervention studies to improve case managers' decision-making.

Methods

Search Strategy

The key words used to search databases were case management, home care, decision-making, and resource allocation (Box 1). We searched the following databases: CINAHL, Medline, HealthStar, PsychInfo, ERIC, and Sociological Abstracts. We focused exclusively on published research studies from 1982 to 2007. This date range was selected because home care programs and case management practice in home care were only formalized beginning in the early 1980's in most jurisdictions. There is no empirical work available on case management in home care before this date.

Insert Box 1. Search Strategy Subject Headings about here

Two journals, *Home Health Care Services Quarterly* and *Care Management Journals* (formerly *The Journal of Case Management*) were hand-searched for all available years, i.e., 1988 to 2006 and 1999 to 2006 respectively. Reference lists of all studies reviewed were hand searched. All titles and abstracts were reviewed for inclusion which resulted in 75 articles for retrieval.

Illustration 1. Search and Retrieval Process about here

Selection of Studies

The inclusion criteria were: 1) the article reported a quantitative or qualitative research study, 2) decision-making was a key word or focus in the abstract, 3) the study's focus was decision-making by case managers or home care nurses (i.e., the unit of analysis), 4) the study addressed resource allocation decisions, and 5) the study had a clearly stated purpose. For the purpose of selecting studies that met these criteria, we defined the r*esource allocation* process in home care as the determination of services for specific home care clients by case managers. It includes the type of services that are delivered, by whom, and for how long [1]. In home care, the care planning function *is* essentially a resource allocation process[9]. We defined decision-making as the process of determining the best course of action for a given situation in light of various sources of information [10-11]. Case management resource allocation decisions are therefore the decisions case managers make regarding the care a given client will receive. This includes the type of services authorized, by whom that care will be delivered (i.e., health care aide or professional nurse), and for what period of time services will be delivered in order to meet both client-centered and system-centered goals.

Validity Assessment

We used three tools to assess a study's quality and excluded articles with a low quality rating[12]. The two tools for quantitative designs in this study (experimental/quasi-experimental and correlational), were originally developed by Estabrooks, Goel, Theil et al[13]. We assessed the quality of the qualitative designs using a quality assessment guide initially developed by Giacomini and Cook[14-15] and later refined by Russell, Gregory,

Ploeg, DiCenso, and Guyatt[16].

Data Abstraction and Synthesis

Data extracted from studies meeting the inclusion criteria included: design, theoretical underpinnings, research purpose or question, primary focus of the study for qualitative designs, variables measured for quantitative designs, sample characteristics, sample size, unit of analysis, measurement tool (if relevant), data analysis techniques, and results. The results of this review are an overview of the state of the science in response to the question, "what are the factors that influence case manager resource allocation decision-making?" We used content analytic methods to synthesize the findings of the 11 studies in the final data set. Content analysis is a systematic analysis by topic where the researcher analyzes data with the purpose of identifying and categorizing data because of their theoretical importance[17-19]. A taxonomy is one way of representing findings of content analysis. We determined that four main categories could be used to describe the factors reported to influence case manager resource allocation decision-making. This was the best approach given the methodological diversity of study designs, the various conceptualizations of the dependent variable, and the limited volume of studies that met the inclusion criteria. The factors were all reported in the primary studies and were categorized as either case manager-related, client-related, information-related, or program or system-related.

Results

Study Flow

We identified 75 potentially relevant articles of which 13 met the inclusion criteria. Table 1 describes the reasons for excluding studies.

Table 1. Reasons for Exclusion about here

Two of the 13 remaining articles received a low quality rating and were excluded. One low rating was primarily the result of a failure of the study to report methods or define terms which prevented us from determining scores for many sections of the rating tool[20]. The other study received a low rating due to a unit of analysis error and the failure to define terms[21]. This left a final data set of 11 articles representing 9 studies. The quality assessment results of these studies are contained in Table 2 (experimental/quasi-experimental studies)[22-24], Table 3 (correlational)[7,25-26], and Table 4 (qualitative)[6,9,27-29].

Insert Table 2 Quality Assessment of Experimental Studies about here

Insert Table 3 Quality Assessment of Correlational Studies about here

Insert Table 4. Quality Assessment of Qualitative Studies about here

Descriptive Findings

The characteristics of the 11 studies in the final data set are reported in Tables 5 and 6. Researchers used qualitative designs in five studies[6,9,27-29] but they did not identify a specific method (i.e., ethnography, phenomenology, or grounded theory). Most of these researchers collected narrative data and reported descriptive findings and/or thematic analyses. Researchers used an experimental design in three studies[22-24] and in three a correlational design[7,25-26].

Insert Table 5 Study Characteristics: Qualitative about here

Insert Table 6 Study Characteristics: Quantitative about here

The 11 articles identified several factors believed to influence case manager resource allocation decision-making (Table 7 and 8). Of a total of 32 factors, 25 were measured in the quantitative studies. Two of these 25 were found to be significant in three articles. Two were significant in two articles and the remaining 16 factors were

significant in only one article each. Seven additional factors were discussed in the qualitative studies.

Insert Table 7 Correlational and experimental findings about here

Insert Table 8 Qualitative findings about here

The theoretical underpinnings in seven of the studies were not identified. The remaining four studies included approaches used to explain decision-making in the literature, but they were not theoretical frameworks per se. Some studies included a short literature review in support of their studies, but did not use theories of decision-making to guide the study or situate the findings within the larger field of decision-making. The references in the primary studies were predominantly drawn from the nursing and case management literature; virtually no references were drawn from decision science or cognitive psychology. Of the 11 included studies all were health science investigators; five groups of investigators were predominantly nursing, (eight manuscripts), two were from social work (two manuscripts), and one was a political science/health policy group (one manuscripts). The research focus of all studies specified case manager or home care nurse decision-making as the primary focus. The unit of analysis in all studies was the individual case manager. Data analysis in all of the qualitative studies was either descriptive or thematic analysis. In the six quantitative studies statistical analyses included hierarchical linear modeling, analysis of variance, and multiple regression.

Analytic Findings

Case manager-related factors

In the quantitative studies, the case manager-related factors found to be statistically significant in at least one study were variability between case managers,

education, gender, social work licensure, and intake specialization (Table 7). The experience and age of the case manager were other factors reported to influence the decision. However, the significance of these factors varied.

Three of the five qualitative studies (Table 8) reported that discretionary practices and variability in decision-making influenced resource allocation decisions. These studies reported that discretionary practice was evident in the resource allocation decision when individual case managers selectively applied the rules (i.e., organizational policies). None of the quantitative studies measured discretion. Discretionary practice leads to variability in decision-making both among and between case managers[28] and contributes to a gap between organizational policies and case manager practices. Not all case managers applied agency policies to the same degree. For example, if a client's cognitive ability required a level of intervention outside of the policy, a case manager uses his or her judgment to determine the best course of action regardless of a policy.

Client-related factors

Three of the six quantitative studies identified client-related factors (Table 7). Nine factors were identified: client preferences, cognitive disability, nutritional status, client cues, current levels of informal care, current levels of formal care, recent termination of services, impairments in activities of daily living and personal resources of the client. The authors of three of the six studies found cognitive disability and current levels of formal care to be statistically significant. Client preferences were reported in two studies as statistically significant. While client preferences mattered, the risk presented with cognitive disability was a significant factor that overrode the value case managers assigned to client preferences. That is, if a client was deemed to have a

cognitive impairment the case manager was more likely to either assign more resources or to recommend placement, regardless of the client's preference (Table 7). In general, for most case managers, client characteristics were more influential than all other factors in resource allocation decision-making (Table 7). Impairments in activities of daily living were found to be significant in three studies.

Client-related factors were reported in all five qualitative studies (Table 8). Investigators discussed client characteristics or client cues generally rather than specifically in most studies. There were a few exceptions. Cognitive impairment was reported to be an influencing factor in one qualitative study[27]. Another qualitative study identified client preference, financial resources and informal care as influencing the decision[6]. Client characteristics and client cues were interpreted by case managers and their importance to the decision varied depending on the characteristics of case managers such as experience and education. On one qualitative study the researchers stated that client characteristics weighed most heavily on decisions for most case managers[9].

Information-related factors

Four information-related factors were identified in three of the six quantitative studies (Table 7). Decision support tools, as one source of information in case manager decision-making, were measured in two quantitative studies and they were reported as statistically significant. A challenge reported in the studies was that the use of decision support tools requires a knowledge base in terms of their application and usefulness to decision-making. Value, risk, and benefit information were measured in one study[24]. The only statistically significant finding on these factors was information on hospitalization risk. Risk information regarding death, nursing home admission, or further functional

decline did not yield statistically significant results. Inservice programs were measured in one study and were not statistically significant[22].

Two of the five qualitative studies identified information-related factors (Table 8). These included guidelines and policies, literature, and human sources. Literature sources were any type of written material, including research studies, and human sources were nurse specialists, medical personnel, and product or pharmaceutical representatives. Only one of the 11 included studies in this review reported research-based evidence as a source of information in case manager decision-making[28].

System/program-related factors

Four of the six quantitative studies reported system/program-related factors (Table 7). These were workload, caseload size, environment, staff turnover, and organizational structure. Three were reported to be statistically significant in their effect on case manager resource allocation decisions, but each in only one study. The busier the case manager and the heavier the caseload, the less likely the case manager was to allocate more resources. Increased busyness also contributed to less weight assigned to client preferences. The organizational structure affected the case manager's approach to resource allocation decision-making but was not reported to be statistically significant.

Three qualitative studies reported seven system-related factors. These authors identified accountability and responsibility, regulation, regionalization, size of caseload, resources, transportation, and waiting time as having an influence on decision-making (Table 8). All factors except resources and accountability and responsibility were identified in one study only. Resources were discussed in three studies. Responsibility and accountability were identified in two studies. Although case managers allocate

system resources, they are not comfortable with fiscal responsibility, nor are they fully aware of all of the costs of their care planning decisions[9]. Increased size of caseloads, health care restructuring without accompanying funding, and human resource shortages were other system-related factors.

Discussion

We have found the evidence identifying factors that influence case manager resource allocation decision-making is at best weak and equivocal. Most factors are reported in only two or three studies and results of statistical significance vary. Although there is a scarcity of studies on case manager decision-making in the literature, both the quantitative and qualitative literature supports case manager decision-making in the home care context as complex and influenced by an interplay of various factors. The qualitative findings lend support to the quantitative findings in this review.

Trends

Two potentially important trends from the quantitative studies emerged in this review. First, the cognitive ability of the client *may* contribute to an increase in resources allocated. Second, there *may* be a trend where current levels of formal care tend to exert a negative effect on the case manager's decision to allocate more care. Both of these client characteristics, cognitive ability and current levels of formal care, *may* affect case manager resource allocation decisions in important ways. In general, the qualitative and quantitative findings lend support to each other and together were useful in the development of the preliminary taxonomy.

Conceptual Issues

Two conceptual issues emerged. The **first** one is definitional – resource allocation

decision-making was not well defined in these studies. One study stated that it is essentially the same as the care planning process[9]. Most did not define the terms at all, creating problems in determining the focus of the studies. A **second** and related, conceptual issue is whether decision-making is viewed as a process or as an event. Decision-making is a key activity of case management [9,24,26-27]. Although resource allocation decision-making is commonly cast as a process in this literature, as a process it is poorly defined and understood. Most of the literature in this field has focused on identification of factors that facilitate or impede the decision (i.e., an *event focus*), rather than on the decision-making process itself. Because the research stops short of being able to demonstrate how better information can improve decision-making we are left with untested assumptions that more or better information will improve decision-making processes and subsequently lead to better outcomes [22-24].

We do not yet have a clear understanding about how resource allocation decisions occur and how best to assist case managers to focus on the relevant information, including what cues are more likely to produce the most accurate decisions. We are unsure of how a case manager uses the information they have, or on what basis they incorporate the role and weighting of other information (i.e., research). The decision-making process itself becomes unclear, as does the weighing of factors used in a given decision.

Role of Research-based Evidence as a Factor

One source of information in case manager decision-making that we anticipated would be present was, in fact, nearly absent from findings of the primary studies in this review – research or research-based evidence. As a result we gained little insight into

what role if any, research-based evidence plays in the decision-making process. Factors influencing health care decisions are currently discussed in the evidence-based decision-making literature and research-based evidence is often included in this literature as a source of information[30]. The lack of research-based evidence as a source of influence in the primary studies included in this review is unexpected and potentially of some concern, particularly in an era of evidence-based or evidence-informed practice. We anticipate that investigators will place greater emphasis on this area in future studies.

Lack of Theoretical Framing

There is little use of theoretical frameworks in many of the studies in spite of the fact that the decision analytic field is replete with theories of decision-making[11,31]. This finding is not unique to case manager decision-making and has been reported in other health care sectors[32-33]. This lack of theoretical guidance impedes knowledge development in this field, a conclusion that was also reported in a review looking at the evidence base for health visiting and decision-making[34]. Theoretical frameworks that are situated within the larger field of decision-making, such as subjective expected utility theory, or more specifically within the field of clinical, or evidence-based decision-making where considerable work has been done, i.e., using cognitive continuum theory[31] or judgment analysis[33,35], could result in significant knowledge development.

A key barrier to the meaningful incorporation of decision making theory to guide resource allocation decisions by case managers in home care may be related to the backgrounds and experience of the researchers. There is little collaboration in this field with decision theorists as evidenced in the research teams producing this work. One obvious way to address this is collaboration with decision scientists. Given the state of

knowledge development not only in the cognitive science and decision-making fields, but also from the evidence-based decision-making field, researchers could be using existing theoretical frameworks to situate studies on case manager resource allocation decision-making.

The Home Care Context and Practice Variation

Case managers determine service needs in a particular policy context while trying to meet and balance client-centered goals with system-created policies[9,26]. In a given client situation, a case manager may elect not to adhere to the established policy, or may modify a policy in light of the various factors at play. Although we know that several factors influence resource allocation decisions, we do not understand the interplay of various factors where a case manager negotiates the decision in a variety of client situations and where they may use discretion in their practice. This discretionary practice, and the resulting variability in decision-making creates a potential policy-practice gap. If policies (or guidelines or care maps) are thought to support case manager decision-making, and if we know the case manager uses discretion in applying the policies, then examining how and on what basis resource allocation decisions are actually made in this context may yield useful knowledge.

Case managers often work out of a central office but their decision-making environment is usually in a private home. Caseloads vary and depend on a variety of factors, such as locality (i.e., rural versus urban), client acuity, and hospital bed closures. Case managers often negotiate their decision with the client or with their supervisor, making it difficult to ascertain the weighting applied to all of the factors that influence the decision. Case managers work at the "bottom of the organization" and must make up

for gaps in policies and systems within that organization[24]. Case managers often have no "official" fiscal responsibility and are often not aware of the overall financial picture or the financial impact of their decisions on other areas[9,24]. These contextual factors contribute to the uniqueness of case manager's practice environments. Although the nature of the practice environment is unique in home care, influencing factors are not unlike those facing general practitioners and surgeons. They determine resources for clients based on client needs while also dealing with other factors (constraints)[32-33,36]. This finding is similar to findings about variability in clinician judgments and practice patterns for various types of elective surgery procedures[33].

Limitations

One of the challenges in any systematic review is the decision about how broad the scope of the review should be. Our decision was to be as broad as we could be within practical constraints. We elected to include empirical research where investigators used either qualitative or quantitative methods. Having made this decision we were able to include 11 articles, but were then challenged by the methodological diversity of the studies. This diversity precluded a meta-analysis. Our alternative was to do qualitative synthesis using content analysis and vote counting as a way to examine statistically significant effects. While recognizing the limitations of vote counting such as the inability to account for effect sizes we attempted to over come this by explicitly[37] reporting sample sizes, *p*-values, and confidence intervals for the primary studies. Additionally, we used an arrow to illustrate the direction of the effect for all statistically significant results (Table 7).

Summary

In this review we have described the current state of the literature on case manager resource allocation decision-making. The contribution of this review is the identification and categorization of the factors that influence case manager resource allocation decisions (Table 9). We located no other categorization of these factors in the literature. Findings reporting case managers' weighting of these factors in decision-making, or the relationships between and among them in resource allocation decision-making were also absent from the literature. Although the taxonomy is useful as a starting point, the factors contained within it need to be verified and research needs to be done to determine the effects, if any, that the factors have on case manager resource allocation decision-making processes and on the resulting decisions.

Dedicated research activities designed to address identified gaps including the lack of conceptual clarity, the lack of theoretical framing, the role and weighting of the factors, including the role of research-based evidence, and the influence of the home care context on these decisions and the decision-making process itself are needed. Studies designed to address these gaps will add new knowledge to the field, particularly if researchers draw on related literature (e.g., practice variation in medicine) and well established decision theory.

In the immediate future, we need studies designed to develop an increased understanding of case manager decision-making within the context of what we already know. Given the lack of research evidence available, some first steps that we recommend are to: a) expand and verify the preliminary taxonomy reported here, b) examine the weighting of the various factors in case manager resource allocation decision-making,

and c) determine what role, if any, research-based evidence plays in resource allocation in the home care context using interpretive methods. These studies would lay the foundation for necessary implementation studies to advance knowledge in this field. The findings from implementation studies would potentially assist decision-makers to improve the allocation of home care resources, better ensuring that the overall spending of limited home care dollars is appropriate in an era of increasing demand for home care services.

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Box 1. Search Strategy Subject Headings

The following databases were systematically searched: CINAHL, Medline, HealthStar, PsychInfo, ERIC, and Sociological Abstracts. The following key words were searched:

Case management (subject heading), OR

Home care, OR

Decision-making, OR

Resource Allocation

AND

Decision-making,

AND

Resource Allocation

Illustration 1: Search and Retrieval Process

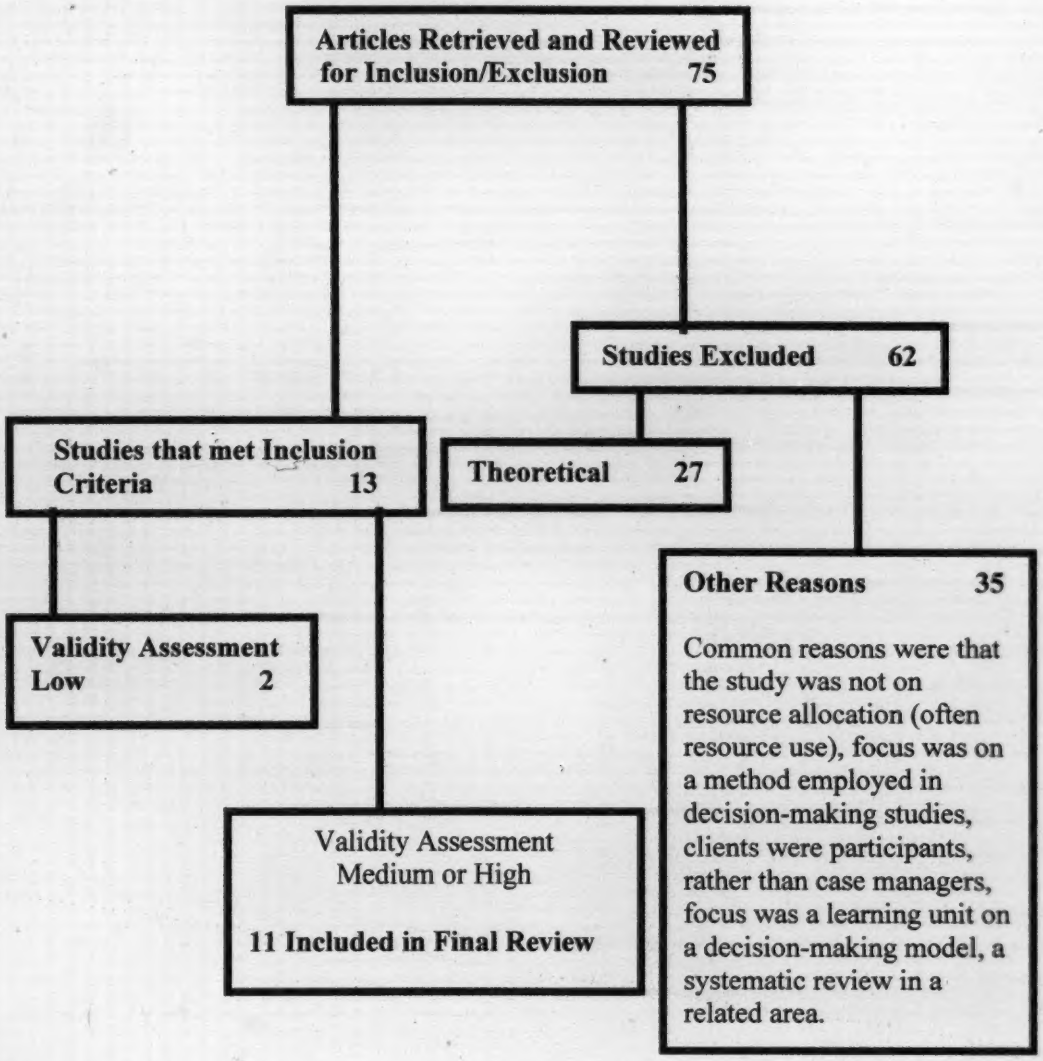
Articles Retrieved and Reviewed for Inclusion/Exclusion 75
Studies Excluded 62
Studies that met Inclusion Criteria 13
Theoretical 27
Other Reasons 35
Common reasons were that the study was not on resource allocation (often resource use), focus was on a method employed in decision-making studies, clients were participants, rather than case managers, focus was a learning unit on a decision-making model, a systematic review in a related area.
Validity Assessment Low 2
Validity Assessment Medium or High
11 Included in Final Review

Table 1. Reasons for Exclusion

Reason for Exclusion	Number
Theoretical	27
Not resource allocation decision-making	15
Resource utilization rather than resource allocation	7
Not case managers as focus of study	6
Other: Self-care decision-making; collaborative decision-making; review article; methodological articles	7
Total Excluded	62

Table 2. Quality Assessment: Experimental Studies

Author,Year	Design & Allocation	Sampling	Inclusion/ Exclusion	Description of Intervention	Analysis	Outcome Measurement	Rating/ Possible Score	Rating L (0-7)	M (13-19)	H (25-32)
Letourneau & Jensen, 1998[16]	3/5	3/5	4/4	4/4	5/5	4/8	23/31			√
Melchior-MacDonald & Lander, 1995[17]	3/5	3/5	4/4	4/4	5/5	4/8	23/31			√
Weissert, Hirth, Chernew, Diwan, Kim, 2003[18]	3/5	4/5	2/4	4/4	5/5	6/8	24/31			√

Table 3. Quality Assessment: Correlational Studies

Author,Year	Design	Sample	Measurement	Analysis	Rating/ Possible Score	Rating L (0-4)	M (5-9)	H (10-15)
Corazzini-Gomez, 2002[4]	1/2	2/4	5/6	1/3	9/15		√	
Corazzini, 2003[19]	0/2	4/4	2/6	3/3	9/15		√	
Degenholtz, Kane, Kane & Finch, 1999[20]	2/2	3/4	3/6	3/3	11/15			√

Table 4. Quality Assessment: Qualitative Studies

	Are results rigorous?					Are the methods congruent from the question through to the findings?	Is the description of results thorough?	Do the results make sense? Are they congruent with other findings of similar studies?
Author, Year	Was the question clear and adequately substant-iated?	Was the design appropr-iate to the question?	Was the sampling appropriate to the question and the design?	Were data collected and managed systematically?	Were data analyzed appropriately?			
Alcock, Angus, Diem, Gallagher, Medves, 2002[3]*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Corazzini, 2000[21]	Partial	Partial	Yes	Yes	Yes	Partial	Yes	Yes
Lemire & Austin, 1996[8]	Yes	Partial	Partial	Partial	Partial	Yes	Yes	Yes
Luker & Kenrick, 1992[22]*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Luker, Hogg, Austin, Ferguson, & Smith, 1998[23]	Partial	Partial	Yes	Partial	Partial	Partial	Partial	Yes

Table 5 Study Characteristics: Qualitative

Author-Yr-Country-Journal	Participants and Setting	Theoretical Underpinnings	Purpose (Qualitative)	Analysis
Alcock, Angus, Diem,Gallagher, Medves, 2002-CA Home Health Care Services Quarterly[3]	N=89 community care coordinators from 5 provinces	None specified	To report factors that influence the choice between home care and facility care for long-term care clients	Content analysis followed by thematic analysis using Miles and Huberman's techniques
Corazzini, 2000-US Home Health Care Services Quarterly[21]	N=63 home care case managers and agency directors	Lipsky's theory of street-level bureaucracy	To examine decision-making strategies employed by Case Managers.	Interviews: Miles and Huberman's quasi-inductive coding technique. Looked at process of DM grouped into a "start-list" of discretion of case manager, interpretation of cues, and goal transformation
Lemire & Austin, 1996-CA Journal of Case	N=6 case managers, 2 registered nurses, 2 social workers, 2	None specified	To determine the factors that influence the decision-making process of case managers	Case studies and thematic analysis

Management[9]	occupational therapists		when developing care plans.	
Luker & Kenrick, 1992-UK Journal of Advanced Nursing[22]	N=47 community care nurses	None specified	To determine what community nurses considered to be their scope of practice and identify sources of influence that informed their decisions	Observations and interviews: content analysis which uncovered elements of practice and factors influencing decisions
Luker et al, 1998-UK Journal of Advanced Nursing[23]	Stated N=49 registered nurses in the community	None specified, identified the theoretical and research base of community practice as both being poor	To describe nurses' prescribing patterns	Thematic content analysis

Legend: DM = Decision-making

Table 6 Study Characteristics: Quantitative

Author-Yr-Country-Journal	Participants and Setting	Theoretical Underpinnings	Variables (Quantitative)	Measurement	Analysis
Corazzini, 2002-US The Gerontologist[4]	N=355 case managers in 26 agencies	Self-developed 3-pronged conceptual model of client characteristics, case manager characteristics, and the case plan decision	IV= Client characteristics (physical and psychological functioning); Client Resources; Client Descriptors; Case manager characteristics; Interactions DV =Care plan Decision	Factorial Vignette Survey and a 5-point likert scale (self-developed) to rate service eligibility	Ordinary Least Squares Regression
Corazzini, 2003-	N=26 home	Lipsky's theory of	IV = Client	Factorial Vignette	Hierarchical

US Health Services Research[19]	care agency directors and N=70% of 507 case managers	street-level bureaucracy	characteristics; Case Manager characteristics; Work environment characteristics DV = Resource Allocation Decision	Survey and a 5-point likert scale (self-developed) to rate service eligibility	Linear Modelling
Degenholtz, Kane, Kane & Finch, 1999-US Research on Aging[20]	Home care agency directors N=212; Home care case managers N=830	None specified	IV = Client Risk; Resources; Preferences DV = Out-of-home placement Decision	Factorial vignette survey, with standardized rules accompanied by a 3-point likert scale (self-developed and pilot tested)	Hierarchical Linear Modelling
Letourneau &	N=163 home	Decision analysis	IV = Decision Tree DV	Chronic Wound	Frequencies

Jensen, 1998 CA Journal of Wound, Ostomy, and Continence Nursing[16]	care nurses		= Accuracy of Response	Management Decision Tree used by treatment group (verified by clinical experts) and pictorial case studies	of accurate staging and product choices as determined by subjects were compared to those of and expert panel using ANOVA
Melchior-MacDonald &	N=94 home care nurses	Decision analysis	IV = Decision Tree DV = Accuracy of Response	Chronic Wound Management	Frequencies of accurate

Lander,1995-CA Journal of Wound, Ostomy, and Continence Nursing[17]				Decision Tree was used by treatment group (verified by clinical experts) and pictorial case studies	staging and product choices as determined by subjects were compared to those of an expert panel using ANOVA
Weissert, Hirth, Chernew, Diwan, Kim, 2003-US	N=24 home care case managers	Stated derived from the cost-effectiveness literature	IV = Death; Hospitalization; Nursing Home Admission;	Cases of 25 patients (risk and benefit information given	Means comparison and

The Gerontologist[18]	Functional Decline DV= Resource Allocation Decision	to treatment group)	multivariate regression

Legend:

DV = Dependent Variable

IV = Independent Variable

DM = Decision-making

Table 7 : Correlational & Experimental Findings : Summary of Outcomes - Factors Influencing Case Manager Decisions

Factors Reported to Influence Decision	Corazzini, 2002[4]	Corazzini, 2003[19]	Degenholtz, Kane, Kane & Finch, 1999[20]	Letourneau & Jensen, 1998[16]	Melchior-MacDonald & Lander,1995[17]	Weissert, Hirth, Chernew, Diwan, Kim, 2003[18]
Design	**Correlational Designs**			**Experimental Designs**		
Methods	**Factorial Vignette Survey**	**Cross-sectional Survey**	**Survey**	**RCT & Pictorial Case Study**	**RCT & Pictorial Case Study**	**RCT**
Case Manager -related (7)						--
Variability b/w CM	--	--	↑↓ *(p<.01, 3.0-4.0)	NS	NS	
Experience	NS	--	NS	NS	NS	
Education	↑ *(p<.10, .006-.39)	NS	NS	NS	--	
Gender (M)	↑ *(p<.05, .02-.34)	NS	NS	--	--	
S/W Licensure	↑ *(p<.05, .13-.60)	↑ *(p<.05, 0.1-1.32)	NS	--	--	
Intake Specialization	NS	--	↑ *(p<.05, .86-5.33)	NS	--	
Age	NS	NS	--			

Client-related (9)				--	--	--
Preferences	↓ *(p<.001, -.31-.11)	--	↑ *(p< .01, 1.95-7.94)			
Cognitive Disability	↑ *(p<.01, .5-.17)	↑ *(p<.001, .18-.38)	↑ *(p<.01, 9.69-12.75)			
Nutritional Status	↑ *(p<.01, .21-.33)	↑ *(p<.001, .20-.32)	--			
Client Cues	NS (Age)	--	↑*(p<.01, 1.11-1.41)			
Current levels of informal care	NS	--	↓ *(p<.01, .28-.38)			
Current levels of formal care	↓ *(p<.10, -.19-.008)	↓ *(p<.05, -.30-.06)	↓ *(p<.01, .08-.35)			
Recent termination of services	↑*(p<.001, .05-.29)	↑ *(p<.001, .12-.36)	--			
ADL/IADL Impairments	↑ *(p<.001, .06-.18)	↑ *(p<.001, .09-.21)	↑ * (p<.01, 4.30-5.55)			
Personal Resources	--	--	↓ *(p<.05, .67-.89)			
Information	--	--	--			

-related (4)				↑ *(p<.001, 5.01-5.51)	↑ *(p<.01, 2.69-3.44)	--
DST				--		↑*(p<.05,
Risk Information				--	--	36.26-59.26)
Value and Benefit						NS
Information				NS	--	
Inservice Program						--
System/Program -related (5)	--					--
Workload		--	↑ *(p<.05, .92-2.27)	NS	NS	
Caseload Size		*(p<.01, .001-.039)	--	--	--	
Environment		--	NS	--	--	
Staff Turnover		*(p<.01, .03-1.2)	--	--	--	
Organizational Structure		--	NS	--	--	

Table Legend

* Statistically Significant	**S/W** Social Work
↓ Negative influence	**CP** Care plan
↓ Positive influence	**DST** Decision support tool
-- Not measured	**ADL/IADL** = Activities of daily living/ Instrumental
NS Not statistically significant	Activities of daily living

Table 8 Qualitative Findings: Summary of Conclusions - Factors Influencing Case Manager Decisions: Qualitative

Making the Resource Allocation Decision	Alcock, Angus, Diem,Gallagher, Medves, 2002[3]	Corrazini, 2000[21]	Lemire & Austin, 1996[9]	Luker & Kenrick, 1992[22]	Luker, Hogg, Austin, Ferguson, & Smith, 1998[23]
Methods	Focus Group & Questionnaire	Semi-structured interview & Focus Group	Vignette & Interview	Participant Observation, Interview, Document Review	Interview
Case Manager - related Discretion Variability between case managers Experience Education/Training in case management S/W Licensure	Ability to manage caseload size What the role of the care coordinator is (i.e, in many cases they are not part of discharge team from acute care) Lack of funds and lack of resources for home care creates ethical dilemmas for case managers	Discretionary practice leads to variation in the decision between case managers Practice Variation Goals transformation related to interpretation of client cues combined with case manager discretion yield goals that are different from agency goals…Policy-practice gap	Even when CMs agreed what service was needed disagreed regarding amount needed and/or authorized. Found differences between disciplines (OT, SW, RN) on the actual amount of support service authorized. Practice Variation Case managers consider case manager factors in decision-making. Little or no formal training in case management Lack of clarity between professional roles, between disciplines & between the participants disciplinary role and case manager role	Experience Education (both formal and informal) General knowledge	Variation widest early on following prescribing course. Practice Variation Difficulties reported were not giving clients what they requested and having to make value judgments regarding some situations Respondents stated variation could also be attributed to characteristics of the nurses, and characteristics of the practice environments, including the GPs.

Client Characteristics Client Cues Financial resources Informal care Living situation (i.e, rural vs urban, family dynamics)	Medical acuity Complexity of care (e.g.., mental health client with diabetes and incontinence) Client choice about where they wish to remain Financial status in terms of affording to pay for additional home support or needed supplies (e.g., depends) Informal care providers available and able to cope with care demands	Interpretation of client cues	Case managers consider a multitude of factors when making care plan decisions including client/caregiver characteristics. Client/caregiver characteristics weighed most heavily on care plan decisions for the majority of participants	Nature of clinical care required Health status	Respondents stated variation could be attributed to characteristics of the population
Information - related Data Management Interactions with Peers Literature	Limited technology to support case mangers with data management			Literature (i.e, research, trade journals, media, drug product information) People sources (specialist nurses, more experienced nurses, medical staff, pharmaceutical or product representatives)	

System/Program Factors Regionalization Caseload Size Culture/nature of System Organizational Structure and Processes	Guidelines and policies affect service options Regulations and eligibility criteria Regionalization differences Size of caseloads Availability of professional and non-professional resources Inexpensive transportation to various support and health services Waiting time for services Downloading of acute care to community without the necessary investment to make the new system work Community characteristics and availability of services		Case managers consider a multitude of factors when making care plan decisions including system factors. Case managers not responsible for resource development. Case managers are not held fiscally responsible for the resources they allocate; they may know how much they allocate in support services, but are unaware of costs of direct care they provide or other expenditures or financial information. They are not comfortable with fiscal accountability and are not fully aware of the cost of their care planning decisions	Policies of organization Availability of colleagues for discussion Available resources	Initially fearful regarding writing a prescription due to increased responsibility and accountability

Table 9. A taxonomy of Case Manager Resource Allocation Decision-making

FACTORS IN CASE MANAGER RESOURCE ALLOCATION DECISION-MAKING		
Case Manager-related	Discretion	
	Variability b/w Case Managers	
	Experience	
	Education	
	Gender	
	S/W Licensure	
	Intake Specialization	
	Age	
Client-related	Preferences	
	Cognitive Disability	
	Nutritional Status	
	Client Cues	
	Current levels of informal care	
	Current levels of formal care	
	Recent Termination of services	
	ADL/IADL Impairments	
	Personal Resources	
	Living Situation	
Information-related	Decision Support Tools	
	Data Management	
	Risk Information	
	Value and Benefit Information	
	Inservice Program	
	Literature	
	Interactions with Peers	
System/Program-related	Workload/Busyness	
	Caseload Size	
	Environment	
	Staff turnover	
	Culture/Nature of Systems	
	Organizational Structure & Processes	
	Regionalization	

Chapter 4
Paper #3

A Taxonomy of Factors that Influence Case Managers' Resource Allocation Decisions in Home Care

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A Taxonomy of Factors that Influence Case Managers' Resource Allocation Decisions in Home Care

> *If this family is getting certain care, it is based on an assessment. And every child is assessed on their own needs. And the needs of their family and all of the rest specific to their situation, and that's how the decisions are made. There isn't a specific formula. We can't say, if you're this you get this or because you have a trach you automatically get this. Because you have to look at the big differences. How much different are they in age?... as they get older they should need less care—unless there are extenuating circumstances, for example, if they are unable to communicate in any form. (case manager)*

The words of this key participant illustrate the many forms of knowledge that case managers use to make sense of their everyday practice. This knowledge is collected in a variety of ways. Case managers perform assessments, interview clients and families, discuss cases with colleagues and other members of the client's health care team, and review the information in light of criteria and policies intended to guide their practice. The case manager in this quote tells us there is not a specific formula for making these resource allocation decisions and that differences in each situation must be considered.

Resource allocation decision-making involves decisions pertaining to the distribution of resources among competing programs or people. It occurs at all policy levels of the health care system, including the case manager level. Even though this decision-making occurs daily, we know little about the knowledge sources or the decision-making processes used. In this paper, we describe a recent study in which we examined what factors influence resource allocation decision-making by case managers in regard to the needs of home care clients with complex care requirements. Although a variety of health care professionals perform the case manager role in home care, the focus of this study was on *nurse* case managers.

Background

Case manager resource allocation decision-making is the process of determining the services that will be authorized for a specific home care client, including the type of services that will be delivered, by whom, and for how long (Fraser & Strang, 2004). Decision-making processes in case management are complex and poorly understood, as are decision processes in other clinical contexts. The complexity of decisions in home care is further complicated by the varied backgrounds of case managers, the absence of consistent educational preparation, and the context in which the decisions occur (Alcock, Gallagher, Diem, Angus, & Medves, 2000).

Home care programs have been shaped in the past decade by steady growth in the number and acuity of clients (Peter et al., 2007; Shapiro, 2002). Financial resources have not kept pace with this growth, creating increased pressure to ration and prioritize services, terms often used interchangeably in both the resource allocation literature and in practice. Additionally, human resources are at a critical all-time low in the home care sector (Canadian Home Care Human Resources Study, 2003), which further adds to the challenges that case managers experience in resource allocation decision-making (Fraser & Strang, 2004).

Decisions are complex tasks (Hastie, 2001) and, in the current environment, the resource allocation decisions facing case managers are exceedingly so. Little is known about the various sources of information that influence these decisions or how significant these sources are to clinical decisions (DiCenso, Callum, & Ciliska, 1998; Flemming & Fenton, 2002; Fonteyn & Ritter, 2000; Jones & Higgs, 2000; Mulhall, 1998; Rycroft-Malone, 2004). Even less is known about how these sources of information interact with

the cues clinicians use to guide their decision-making processes (Dowding & Thompson, 2003; Hastie, 2001; Luker & Kenrick, 1992; Patel, Kaufman, & Arocha, 2002; Rycroft-Malone, 2004). The ongoing challenge facing clinicians and researchers alike is to come to a better understanding of the various influencing factors and the interplay among them within different health care contexts.

Within the home care context, there are macro-, meso-, and micro-level allocation decisions. Case manager resource allocation decisions are at the micro level. That is, individual practitioners make decisions to allocate resources to individual clients (Beauchamp & Childress, 2001). Macro and meso allocation decisions are made at the programmatic and health system levels respectively and include determination of how much funding is available, for what services (or goods), and how those services should be delivered (Saulo, 1996). Only a modest amount of research has been done on resource allocation and that which has been done is focused predominantly on the macro or meso levels. There is little available research on micro-level resource allocation decision-making.

The micro-level resource allocation decisions made by individual case managers are important because they can have significant effects on client care delivery and on client health outcomes. Subsequently these decisions affect overall program resources and program-related outcomes, including the ability of home care programs to deliver equitable services (Fraser & Strang, 2004). Given the importance of resource allocation in the current environment of shrinking resources and growing demands, the lack of empirical research in this field is somewhat surprising. However, this paucity of research is found not only in home care, but in other health care sectors as well (McKneally et al.,

1997). Although health care practitioners, including case managers, are regularly making resource allocation decisions in their daily practice, it remains uncertain as to how they actually do it and what factors they consider.

We believe that a better understanding of case manager resource allocation decision-making processes and the effects of these decisions on health outcomes will contribute to a better understanding of whether the limited resources are being expended appropriately. The first step in accomplishing this is to understand what factors influence case manager resource allocation decisions. With this in mind, we conducted a study of the factors that influence home care case manager resource allocation decisions in the context of high needs pediatric clients. We chose this population because this population has complex care requirements that at least meet, and often exceed, the maximum allowable allocation of $3000.00 per month under the current eligibility criteria for home care in the province of Alberta. One of our inclusion criteria for this study was that case managers had allocated services of more than $2000.00 for a given client in the past year. We set this limit because we held the assumption that case managers may find it more challenging to allocate resources in complex situations and therefore would be more aware of the factors they were considering when allocating a high volume of resources. Because they would be more aware of the factors they were considering in their decisions, we believed that they would be able to verbalize the factors more readily. Our specific questions were: What factors influence case manager resource allocation decisions in home care? And how does the home care context influence case managers' use of these factors?

Methods

We used Spradley's (1979) ethnographic approach, including techniques such as observation and interviewing as well as ethnoscience (Spradley, 1979), to study the way that participants used their language to categorize their world. Ethnoscience helped uncover the factors influencing case managers' resource allocation decisions for home care clients.

After obtaining approval from the Health Ethics Review Board at the University of Alberta, we obtained administrative approval from the health region. We situated our study in the province of Alberta in a home care program within one of Canada's largest regional integrated health systems. In this region, the home care program is part of a broad array of community services. We focused on the Children's Home Care Program (CHCP), a dedicated program area within the regional home care program. CHCP provides a range of home care and support services to high needs pediatric clients. Case managers in this program allocate resources based on assessed need. The services are delivered either by several contracted service providers or by caregivers hired directly by families (i.e., self-managed care).

The sample consisted of 11 home care nurse case managers and program leaders who have made, or have been involved in making, resource allocation decisions for pediatric clients with complex care requirements. Data were collected using purposive and maximum variation sampling (Patton, 2002). Variation was achieved by identifying a number of diverse characteristics of case managers such as years of experience, educational preparation, and background. The data in our study consisted of two types of

information: highly detailed descriptions of unique cases and shared patterns of behaviour that cut across cases.

We used Spradley's Developmental Research Sequence (Spradley, 1979) as we simultaneously collected and analyzed data in three rounds of data collection. Round 1 consisted of semistructured interviews using descriptive questions. Following open coding of the first three descriptive interviews, we developed a preliminary coding scheme, which was used to create cards for sorting by the case managers. We used structural and contrast interview questions and included the card-sorting activity in Round 2. We asked the case managers to describe how the categories they formed were similar or different from one another. Participants were asked to "think aloud" as they sorted the cards. We used the card-sort exercise as a means for the case managers to create a hierarchical structure of the factors that influence their resource allocation decisions. Once the hierarchical structure had been created by the case managers, we continued to analyze and refine the developing taxonomy throughout Round 3. In Round 3, we asked specific structural and contrast questions guided by the iterative data analyses that we were doing throughout all rounds of data collection. The participants were provided with the developing taxonomy for verification and validation.

The first author conducted the interviews and participant observation sessions over a 5-month period during general client and family rounds, grand rounds, nursing meetings, team meetings, and inservices in the home care office. Data collection also involved shadowing 2 case managers for specific targeted events (grand rounds, team meetings, client visits).

The card-sorting activity and the accompanying semistructured interviews were audio-recorded and transcribed verbatim. We verified transcriptions with the audiotaped interviews for accuracy. We used NVivo to manage the data. Digital photographs were taken to capture the card-sort results. On completion of data collection, we had transcripts of 16 interviews, 8 of which included card-sort activities. Interviews ranged in length from 45 to 90 minutes, with a total session time of 27 hours. The detailed field notes from these sessions were part of the data set. By triangulating various data sources, we were able to form a cohesive picture, taking into account both what was said and what was observed. Case managers and program leaders with varied backgrounds and experiences told similar stories. Final verification interviews and a focus group confirmed that the findings accurately and appropriately reflected their experiences.

Results

The case managers identified 4 main categories of factors that influence their resource allocation decisions. These factors, presented as a taxonomy in Table 1, are the main findings of this study. The main categories were *system-related, home care program-related, family-related, and client-related factors*. The case managers were not able to *rank* factors because, as they said, "it depends" on the individual client situation. Each category is discussed below.

System-related Factors

Case managers referred to "the system" as the broader regional health care system. Three factors were identified and grouped under the *system-related* category by the case managers. These were the regional home care program, the hospital, and the client's health care team.

The Regional Home Care Program

The case managers placed the regional home care program under the umbrella of the system, but gave their own program, the CHCP, its own category. All other home care services, such as adult, short-term interventions, mental health, and palliative care, are delivered under the regional home care program through six general home care network offices; whereas the CHCP is a specific program dedicated to children's home care services within the entire region. General home care policy and eligibility criteria are set by the regional home care program. The case managers viewed the overall home care program as influencing their resource allocation decisions, especially in terms of eligibility and overarching home care policy. They believed that they had to work within these constraints, as they had little or no control over criteria and policy set at this level.

The Hospital

The hospital was identified as a factor because wait times imposed for hospital beds or equipment affected resource allocation decisions. For example, if a child needed rehabilitation services at a different hospital and there were no available beds there, the child would stay at the children's hospital until a bed became available. This subsequently postponed discharge to home care. Similarly, wait times for equipment assessment also postponed discharge. The case managers felt this affected their decisions in terms of establishing a discharge date. Without the ability to set a specific discharge date, case managers could not orient and schedule caregivers, even though they may have been hired and ready to start care. Such factors were beyond the control of the case manager and threatened the retention of caregivers.

The Client's Health Care Team

The client's health care team was comprised of all health care professionals who were involved with the child's health and his or her health care needs, both hospital- and community-based. The case managers believed that the individual characteristics, beliefs, and past experiences of these professionals affected the allocation of home care resources and, as such, represented significant sources of information during the assessment process and discharge planning.

Home Care Program-related Factors

The Children's Home Care Program (CHCP) is within the regional home care program in terms of reporting structure, but the case managers saw it as a separate category when considering the factors that influence their resource allocation decisions. The case managers identified and grouped 5 factors under *home care program-related factors*: the case manager, resources, guidelines, criteria, and the team.

The Case Manager

Case managers saw themselves as the link between the family, the program, and the system. Case managers' personal or individual characteristics affected resource allocation decisions, particularly their empathy for a given situation and their beliefs and past experiences. Case managers stated that past experiences with other families led them to allocate amounts and types of services that had proven to be effective in similar cases in the past. Newer case managers were more apt to seek out more senior case managers for advice, as they had "been there" and were valued as sources of knowledge. Case managers often referenced their personal experiences and beliefs as a source of information they used in decision-making.

> With one of my clients she was, her son is extraordinarily funded .... she was complaining about something... I brought up just something from my personal experience. (case manager)

Although they acknowledged their personal beliefs and shared the role that these beliefs played, they pointed out that they thought these beliefs did not *really* affect their resource allocation decisions.

> I would hope that it [personal beliefs] doesn't affect very much... I might believe this, but I have to look at what is best for the child. Because if I had a child right now that needed a trach, there'd be no caregivers in my home ... I wouldn't be one that would have people in my home at night. Because I've seen how disruptive it is to families, and I've seen what they go through having all of these different people in. (case manager)

> Children—if they're home they don't need 24 hour care because then you'd never look after your own child. It's personal belief. (case manager)

Resources

Case managers discussed resources in two ways: in terms of available funding sources and in terms of human resources.

Funding resources. The two main funding sources for CHCP clients are the regional home care program and province wide service (PWS). Regional home care funding is provided directly through the regional home care program for clients who meet the criteria. PWS funding is provided directly by the provincial health ministry. It is special funding available to children with complex medical needs in which their service requirements exceed $3000.00 per month. Children must be eligible for home care from the province of Alberta as a prerequisite for PWS funding. They must also be approved by the provincial advisory group charged with allocating these funds. The manager of the CHCP sits on this advisory group.

Case managers also described other financial resources, the availability of which depended on the child's specific situation. For example, funding was sometimes available through other ministries such as Children's Services or from community organizations such as foundations, or service clubs, for specific requests (e.g., a wheelchair). The case managers did not "allocate" resources from these additional sources, but rather made families aware of them and helped to prepare funding applications in some cases. As such, case managers felt the need to be knowledgeable about many possible funding sources and their respective eligibility criteria. If a client was not eligible for one source of funding, or could get only a specific amount from one source, this affected how the case managers approached other sources. This was one of the most complicated activities for new case managers; under such circumstances, more senior case managers were often called upon for their past experience and knowledge.

Human resources. Human resources were caregivers hired either through contracted agencies or through the self-managed care (SMC) option. These caregivers were typically health care aides (HCAs) or licensed practical nurses (LPNs), but could also include registered nurses and/or allied health professionals. The availability of human resources affected resource allocation decisions. For example, in cases where insufficient numbers of caregivers were available, the development of a team of caregivers was stalled, and clients remained in hospital for much longer periods of time. The lack of availability of caregivers was a source of angst for case managers, as it delayed the entire discharge process. In the case of clients already at home, the scarcity of human resources necessitated priority setting and rationing of services.

> We went through it actually with the emphasis at looking at rationing resources and who needs resources, and rationing is probably not a popular word in home care … some families may not consistently get as many of their nights filled. (case manager)

Guidelines

Formal guidelines were also used in resource allocation decisions. These had to do with how things happened and how things were implemented at the program level. For example, such guidelines could include an evidence-based wound care guideline or procedural documents to guide a delegated care plan for tracheostomy care. Case managers not only believed that guidelines were influential in giving them some direction in their resource allocation, but also valued guidelines as tangible resources on which they could rely. Guidelines also allowed them to be more transparent in their decision-making. Case managers used them to demonstrate to each other and to parents why they were making a particular decision, for example, in the use of the algorithm for nighttime care. Case managers articulated that guidelines were more flexible and malleable than were criteria.

Criteria

Criteria were formal program- or system-level criteria. They were firmer than guidelines, and little deviation from them was allowed. The criteria most often discussed were eligibility criteria for services under the home care program or for province wide services (e.g., must be under 18 and a resident of Alberta to access CHCP funds).

The Team

The "Team" denoted all staff in the CHCP and was also used to describe team meetings. For example, case managers often said, "*I'll bring it to Team,*" which meant

the whole team and all disciplines. If referring only to nurses, case managers were more specific in their reference to, for example, a nursing meeting. The team was a source of influence on the case manager's behaviour. Case managers stated they might change their decision in light of what the team had to say. The team would brainstorm or collectively discuss a case in order to develop a plan of action prior to a case manager's final decision. Team decision-making was viewed as better than individual decision-making and was used as a way to incorporate more "experience" into the decision-making process. Specific factors influencing resource allocation decisions within the team were experience, the nature of the team, and team processes.

Experience. Many case managers spoke about the collective experience of the team. Over the 12 years the CHCP has been in existence, the collective experience of the team has become one of the sources of knowledge used to guide the allocation of services and to legitimize current practices.

> We have kind of evolved as we started this and have started to pick up on different costs that we feel are more appropriate for us to be taking on. (case manager)

Nature of the team. The team had three leadership positions: the manager of the program, the supervisor to whom the case managers directly reported, and the professional practice leader. There was also a transition nurse whose role included daily hospital visits for general rounds and discharge planning. Other members included case managers (all of whom were nurses), allied health professionals, and clerical support staff. The clerical support people were the only ones in the building who did not attend "Team." It was the nature of the team and the way they related and interacted with each other that proved more important than who specifically was on the team. Team members

regularly consulted with one another, either one-on-one or at "Team." Each believed the others on the team were approachable and found them to provide a nonthreatening, supportive environment, regardless of their position or time on the team. Their leaders were seen as supportive, approachable, and inclusive.

Team processes. Case managers were observed to use two processes to support them in allocating resources: formal processes and informal processes. Formal processes consisted of hospital rounds, inservices, daily nursing meetings, and weekly "Team" meetings. Informal processes included ad hoc brainstorming sessions, small group discussions, and lunchtime group problem-solving.

Family-related Factors

Case managers immediately recognized that the family influenced their resource allocation decisions significantly. One case manager said that the weighting given to the family in such decisions can be as high as 50%. Another case manager said that she gave it the most weight of any factor. Indeed, case managers could not consider a pediatric home care client without also considering his or her family. The 7 factors that case managers identified and grouped under the category of *family-related factors* were: the number of children, family beliefs, family support, marital status, coping, risk to the family as a unit, and socioeconomic status. Case managers defined family as the people who lived with the client and provided them with care and support in the community.

> For us to look at what the family needs to be able to maintain their independence in the community, then you need to look at the family as a whole, especially when in pediatrics we practice a family-centred care philosophy, so the family is actually the client unit… It's [the family is] always the focus. (case manager)

Beliefs

Family beliefs included general beliefs about day-to-day activities, lifestyle choices, and the care of their child. These beliefs could be experiential, religious, cultural, or health-related. Regardless of what the family's beliefs were, case managers considered them important, and any services delivered had to be consistent with these beliefs.

Marital Status and Other Children

Case managers considered whether the parent(s) were single, married, or in a relationship and how supportive that relationship was. Other children were considered and whether they had medical or developmental needs. These considerations affected resource allocation decisions in terms of parental ability to provide hands-on care to the client and the resulting effect on the parenting needs of the other children in the home.

Coping and Risk to the Family as a Unit

Case managers understood risk to the family unit as anything that threatened the integrity of the family, such as the stress, time, and resources required to maintain a child with high medical needs at home.

> … the biggest thing you notice is that with high needs children… there is a higher level of families that don't make it, that end up as single parents …. Because for whatever reason, the family unit does not work.
> (case manager)

Many case managers had experience with families who were unable to remain together, often due to the inability of one spouse to cope with a child with high needs. When considering resource allocation, the case manager considered what care and supports would enable a family to cope with their situation and function as well as they could as a family. Case managers struggled to balance what they wanted to provide against what

was available given eligibility criteria, system constraints, and human resources. How well a family coped may not have been evident until some time after discharge, and it was often affected by other things going on in their lives. If necessary, the case manager provided additional care for short-term relief at times when families were struggling to cope.

Family Support

Family support was any support the family received outside of the support received from the home care program. It included extended family, support groups, or connection to other community groups. It also included supports from other services such as Family and Social Services. This was important to resource allocation decisions because, without a support system in place, the family may not have been able to cope as well as they could have. Under these circumstances, case managers, in order to promote a successful discharge, would rather keep a child in hospital a bit longer to allow a family more time to get appropriate supports in place.

Socioeconomic Status

All of the case managers in this study held the general belief that higher-income families were able to obtain other resources, such as additional child care or employer benefits to support parental leaves, or other medical benefits.

> Families that do have more money seem to be able to pull together extra help or they can hire a nanny or maybe use an agency privately and get a few more hours. (case manager)

In the case of lower-income families, on the other hand, case managers needed to coordinate other services and search for other means for funding.

According to home care policy, care is not allocated to a family unit. Case managers stated, however, that the family has significant weighting in allocation decisions and may lead case managers to allocate more or less resources to clients. Given that the philosophy of family-centred care underpins the CHCP, this finding was not surprising.

Client-related Factors

The client is the person to whom the resources were allocated, that is, the recipient of care. Factors in this category were specific to the client's physical state and health condition. Case managers identified and grouped the following 5 factors as *client-related factors*: health status, risk to the client, health assessment, client needs, and complexity. Case managers evaluate health status, risk, complexity, and client needs as part of their health assessment. This is done by using a variety of assessment tools that supplement a case manager's skills of observation, interviewing, and physical assessment.

Health Status

Health status is determined by looking at how stable a client is relative to his or her diagnoses and how predictable his or her response is to interventions.

> To be stable and reasonably predictable means where their condition isn't changing every night. (case manager)

Determining health status is not always straightforward, especially when clients are newly discharged from hospital. Many infants discharged to home care come directly from pediatric intensive care units where they received constant monitoring and intervention by registered nurses; registered nurses are rarely involved in direct care at

home. Rather, at home, these children receive the majority of their care from home support aides and/or licensed practical nurses. A health care aide cannot assess a client and intervene in the same way a licensed practical nurse can. In order to be eligible for a health care aide level of care, the client must be stable and the anticipated outcomes for interventions must be predictable. Hence, the client's health status plays a significant role in a given resource allocation decision. It affects the level of care a client receives, which has a subsequent effect on the overall resource expenditure.

Risk to the Client

Case managers defined risk as any threat or potential threat to the health status of the client. Case managers considered risk when deciding what care the child needed in order to be safely cared for at home. Assessment of risk depended on the child's diagnosis and prognosis.

> We're going to accept the fact that they're palliative and they could go home and they could die at home. If they stopped breathing …we recognize that that's going to happen at some point. This is a different risk than if you have a child that we're thinking that we can cure the underlying condition, but they still have these periods where they might stop breathing. (case manager)

Complexity of the Client and their Needs

Case managers described clients as either "complex" or "simple and straightforward." Most of the children for whom case managers allocated resources had complex medical conditions and care requirements. Needs were determined based on the assessment of care required and included treatments, interventions, and basic care and equipment in order to meet their daily living needs.

> The complexity of the situation is about interventions, what you are doing for the child, what are the skills that are needed specifically so that you can look at the level of care that's needed. (case manager)

Case managers stressed that the factors were interconnected and interrelated and stated that it was not possible to consider one factor without the others (e.g., one cannot consider the client without also considering his or her family). Multiple factors were interpreted within the context of the overall health assessment. They believed their work was validated when they looked at all of the things they consider in resource allocation decision-making. They verified all of the factors and the groupings. Although they confirmed that these were the factors they considered, they were quick to add that things were not nearly as tidy or as organized as the taxonomy represents and that everything was interconnected. How one factor affected a given decision depended on other factors.

Discussion

The purpose of this article was to describe the factors that influence case manager resource allocation decision-making based on the findings from our ethnoscience study. Here we will (a) discuss the contribution of the findings in relation to a prior systematic review (Fraser & Estabrooks, in press), (b) describe the messiness of the process of uncovering the client-oriented and system-oriented factors used in resource allocation decisions, and (c) offer the Accountability for Reasonableness framework (Daniels & Sabin, 2002) as a useful theoretical perspective to advance knowledge in this field.

Prior Research and Case Manager Resource Allocation Decision-making

The findings in this study (Table 1) are similar to those of a previous review of the literature (Table 2) (Fraser & Estabrooks, in press), which could be described as presenting the expected taxonomy of factors that influence case manager resource allocation decision-making based on what has been published. A comparison of the categories of factors in the expected taxonomy versus the observed taxonomy is

illustrated in Table 3. The factors that are client related are similar in both the expected and observed taxonomy. System/program-related factors in the expected taxonomy were captured in either the system- or the children's home care program-related categories in the observed taxonomy. The taxonomy of factors reported in this paper could be defined as the observed taxonomy of factors. In the expected taxonomy, the case manager category was comprised of case manager characteristics and behaviours, whereas in the observed taxonomy those characteristics and behaviours were captured as part of the children's home care team from the perspective that it is case managers who make up a large part of the team. Information-related factors in the expected taxonomy were found in the client-, system-, or children's home care program-related categories of the observed taxonomy.

However, there are two main differences between the expected taxonomy (Table 2) and the observed taxonomy (Table 1). First, in this study, the family had a much more influential role in resource allocation than was evident in the literature review. Second, in this study, the influence of the team in resource allocation decision-making is in contrast to the conclusions portrayed in the literature.

The findings of the previous systematic review of the literature (Table 2) did not reveal the important role that the family plays in influencing resource allocation decisions (Fraser & Estabrooks, in press). Family-related factors did not show up in the expected taxonomy other than as levels of informal care or personal resources. In the observed taxonomy, on the other hand, it was a strong category influencing resource allocation decisions and one that case managers said likely influenced their decisions the most. This is not entirely unexpected because this was a pediatric home care program and all

children depend on families. The strength of the influence of this category was consistent in this study whereas the role of the family in the research-based literature on resource allocation was inconsistent. For example, in one study, informal caregivers were referenced, which may or may not have been "family" (Alcock, Angus, Diem, Gallagher, & Medves, 2002). Other studies did not mention family at all, or the reference to family was so subtle it was not detectable as an influencing factor (Corazzini, 2000; Weissert, Hirth, Chernew, Diwan, & Kim, 2003). In this study, on the other hand, case managers said, "you cannot consider the needs of the client without also considering the needs of the family" because the role of the family directly influences the type and volume of resources allocated.

This is an important finding because clients are a part of families, who often take on the role of primary caregiver in home care (Forbes et al., 2003; Ray, 2005; Ward-Griffin, 2000). If families, chiefly parents, are not willing or able to assume the role of primary caregiver, then the client may not be able to be cared for at home. Yet, the role of the family in case managers' resource allocation decision-making remains unclear. When studies specific to resource allocation decisions in home care discuss the role of the family, it is often represented as a client characteristic, as in having informal support, or as a client resource, as in the daughter provides meals, rather than as an important factor that directly influences resource allocation decisions.

The collaborative practice of the team in resource allocation decision-making is the second main difference between the observed and the expected taxonomy. Team collaboration was found to influence the way the case managers considered and incorporated the factors in their decisions. In both formal and informal team processes,

case managers reviewed cases, shared information, sought advice from one another, and drew on the collective experience of the team as they made their resource allocation decisions. This team regularly engaged in discussion as they worked through the various factors in making resource allocation decisions. This finding is in contrast to the literature, in which the case manager is generally portrayed as a "lone ranger," an autonomous professional who is practicing independently in clients' homes; in one study, case managers were even "discouraged from discussing specific cases" in team meetings (Ceci, 2006).

A Messy Process

The process of uncovering the factors and of placing them into categories was messy and challenging for some case managers in this study. The words "it depends" became a mantra. *It depends* on the specific situation in light of the client- and system-related factors, for example, the influence of the family. Many decisions about care depended on the family, including how much care the family was willing and able to provide. Clients were typically highly complex in their health needs, with multiple and unusual diagnoses, and required multiple interventions and high technology to be cared for at home. Although the factors that were considered in resource allocation decisions in home care were identified, the contributing influence of each factor in each decision often depended on other factors in each case; there was no specific recipe that could be used.

As the case manager illustrated in the quotation at the beginning of this article, a given condition or treatment requirement is not enough information on which to base a resource allocation decision. For example, the presence of a trachesotomy does not provide an automatic prescription for care. The case manager must consider the "big

picture" of all the client-oriented and system-oriented factors present in each case. This is a complex and convoluted process, and case managers believed it needed to be fair, open, and transparent.

Theoretical Perspectives

The findings of this study established a categorization of factors in a taxonomy that is used in case manager resource allocation decision-making and provided a deeper understanding of these factors. It is valuable to further question how this taxonomy advances our knowledge of resource allocation decision-making. The literature is replete with theories of decision-making, but theories of resource allocation are not as evident. In order to do justice to this theoretical discussion, it is important to consider the framing of this study. It was an empirical study from a naturalistic stance, that is, it was descriptive and explanatory. To more accurately determine the factors influencing the phenomena under study describing it in as much detail as possible is necessary. Description is the precursor to embryonic theory formation before the testing of the theory can proceed. We first need to describe what is going on before we can make judgements about their decisions, such as in terms of the effects or quality of those decisions or whether they are correct or ethical. The most useful theories, therefore, are those that help us to understand what we observed about the factors case managers use and how they use them in their resource allocation decisions.

Decision-making theories have been predominantly informed by theoretical perspectives based in the fields of cognitive psychology and economics. One of the most widely accepted decision theories is the normative subjective expected utility theory (SEUT), which is intended to provide "the right answer" to the decision-maker. It is

useful when the outcomes are known, whether under conditions of certainty or uncertainty. It provides decision-makers with the choice they ought to make under conditions of certainty, risk, or uncertainty. In this study, case managers were dealing with multiple choices fraught with ethical implications and uncertain outcomes. Several authors have demonstrated that economic theories fail to consider the practical and ethical dimensions that clinicians and managers deal with on a daily basis (Gibson, Martin, & Singer, 2005; Mitton & Patten, 2004; Olsen, 2005; Peacock et al., 2006). Although SEUT may have potential for future work in this field, we believe that in addition to the arguments posited by others, it is premature to apply traditional decision theories such as SEUT because based on our study we can only describe how they made decisions rather than jump to assumptions about whether their decisions are good, bad, or otherwise.

A second theoretical perspective is provided by the cognitive continuum theory (CCT), a newer approach to decision-making as opposed to more traditional decision-making theories such as SEUT. Initially developed by Hammond (1978), the CCT was introduced in the clinical decision-making arena by Hamm (1988). It has since been used by several health care researchers (Cader, Campbell, & Watson, 2005; Offredy et al., in press; Thompson, 1999). This theory allows the decision-maker to consider both the decision task and the structural complexity of the decision. It assumes primarily that the decision-maker is deciding between known outcomes and that the decision task will dictate the best approach to take in the decision. Although it does perhaps allow for more complexity in decision-making than SEUT does, it assumes the decision process is linear along a continuum from highly analytic to intuitive. It makes the assumption that the

decision-maker makes a rational choice about each decision alternative and assesses the weight of each cue as he or she moves along the continuum. This theoretical perspective is of limited value here because, as we discovered, the decision task for case managers is not linear, but complex and convoluted; they are often uncertain about the weight of each cue (i.e., factor), as "*it depends*" on other cues or factors. The case manager is not dealing with an either-or choice in this ethical decision context.

In addition to economic theories of decision-making or newer decision theories used in clinical decision-making studies, resource allocation decisions can also be informed by ethical theories. Case managers used words such as fairness, transparency, and equity throughout this study. It was through listening to the case managers' descriptions of resource allocation decision-making that I was led to ethical decision-making literature. These words that the case managers used are used in ethical decision-making frameworks in a manner similar to the way in which case managers used them. One theory that appears in the resource allocation decision-making literature is the *Accountability for Reasonableness* framework (Daniels & Sabin, 2002).

The premise of this ethics-based decision framework is that the reasons behind resource allocation decisions should be publicly available and must be ones that "fair-minded" people agree make sense under necessary resource constraints. Because we are seeking not only to explain what is going on at a descriptive level but also to deal with the ethical concerns case managers are concerned with, *Accountability for Reasonableness* makes sense and is appropriate to advance the state of knowledge at this time in this decision context. This framework was developed during the 1990s by Norman Daniels, a philosopher, and James Sabin, a physician. They state that

accountability in resource allocation in democratic societies ought to be rooted in the principles of fairness and openness. Daniels and Sabin identified four conditions in their framework that need to be met in the resource allocation process: relevance, publicity, revision, and regulation.

The relevance condition requires that decisions be based on relevant reasons. Case managers were able to identify reasons, namely the factors that are relevant, and considered these accordingly in their resource allocation decision-making in each particular case. They used their team as well for examining the contributing factors for their relevance in resource allocation decisions and for ensuring openness and transparency in the process.

The publicity condition requires that the reasons for decisions be publicly available. This condition is met primarily through home care criteria, guidelines, and home care policies that are available to the public.

The revision/appeals condition requires that decisions be reconsidered and revised in light of new information. Anytime there was a change in client health status or new information arose, client needs were reviewed and resource allocation decisions were modified in light of new information, depending on the relevance of factors. As well, information on how to appeal a decision was provided to clients.

Regulation/enforcement requires that processes to enforce the other three conditions be in place and regulated. The above three processes were voluntarily regulated by the home care program and occurred primarily through self-regulation (i.e., home care program policies, Provincial Advisory Team). In addition, the home care program is accredited through the Canadian Council on Health Services Association, and

although it is a voluntary process, it is an external body whose criteria encompass relevance, publicity, and revision (CCHSA, 2004).

Accountability for Reasonableness has previously been used in research studies on resource allocation at macro levels such as health care institutions (Ham & Coulter, 2001), for new cancer and cardiac technologies (Singer, Martin, Giacomini, & Purdy, 2000), and at meso levels in hospital strategic planning (Martin, Shulman, Santiago-Sorrell, & Singer, 2003). In addition, the four conditions of the framework are relevant to the study of micro-level resource allocation decisions (Gibson et al., 2005). Thus, *Accountability for Reasonableness* is one theoretical perspective that is appropriate for understanding case manager resource allocation decision-making (Daniels & Sabin, 2002; Ham et al., 2001; Hasman & Holm, 2005).

Case managers strive to make decisions that any reasonable case manager would make and that any reasonable person would understand. In addition, they consider the perspective and input of relevant stakeholders in their resource allocation decisions. Case managers engage in reflective practice as they seek to balance all of the relevant factors in a decision that makes sense in a milieu of rationing resources and setting priorities for care, both of which are necessary because of the increasing financial and human resource constraints inherent in this context (Varcoe et al., 2004). For these reasons, we argue that the Accountability for Reasonableness framework can aid our understanding and to guide knowledge development in this area at this time. It allows us to incorporate the complexity, uncertainties, and the ethical nature of this resource allocation decision context.

Conclusions

This study provides new insights into case manager resource allocation decision-making. A major contribution of this research is the taxonomy, which is the first attempt to identify and classify factors that influence resource allocation decision-making. We were able to present gaps in the expected taxonomy based on findings in the observed taxonomy. The empirical identification and classification of the factors will promote knowledge development in this field. Other valuable contributions are the prominent role of family and the nature of team decision-making in the home care context. As this study was limited to case managers in a high needs pediatric program, additional research is required to verify the findings in other home care sectors.

These findings provide a common language and organization of factors that are useful for researchers in designing future studies on case manager resource allocation decision-making. Reasonable next steps are studies designed to measure the weight of the factors in various home care contexts, and, importantly, implementation studies designed to measure the effect of resource allocation decisions on client and family outcomes—both of which have the potential to advance micro-level resource allocation theory.

The notion of using the *Accountability for Reasonableness* theoretical framework is new to micro-level resource allocation decision-making in home care. In light of current trends such as fiscal limitations, human resource shortages, and continued growth in home care programs, this framework could prove useful for further knowledge development.

Table 1. Case manager resource allocation. A Taxonomy of Case Manager Resource Allocation Decision-making

FACTORS IN CASE MANAGER RESOURCE ALLOCATION DECISION-MAKING																										
System Related			Children's Home Care Program Related							Family Related							Client Related									
Home Care Program	Hospital	Client's Health Care Team	Case Manager	Resources	Guidelines	Criteria	The Team			Number of Children	Beliefs	Family Support	Marital Status	Coping	Risk to the Family (as a Unit)	Socioeconomic Status		Health Status	Risk to the Client	Health Assessment	Client Needs	Complexity				

Table 2. Findings of previous Systematic Literature Review

FACTORS IN CASE MANAGER RESOURCE ALLOCATION DECISION-MAKING																										
Case Manager Related								Client Related									Information Related						System/Program Related					
Discretion	Variability b/w Case Managers	Experience	Education	Gender	S/W Licensure	Intake Specialization	Age	Preferences	Cognitive Disability	Nutritional Status	Client Cues	Current levels of informal care	Current levels of formal care	Recent Termination of services	ADL/IADL Impairments	Personal Resources	Decision Support Tools	Risk Information	Value and Benefit Information	Inservice Program	Interpretation of Cues		Workload/Busyness	Caseload Size	Environment	Staff turnover	Culture/Nature of Systems	Organizational Structure

Table 1. Expected versus Observed Taxonomy

Expected Taxonomy	**Observed** Taxonomy
Client related	Client related
System/Program related	System related
Case Manager related	Children's Home care Program related
Information related	**Family related**

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Chapter 5
Paper #4

Case Manager Resource Allocation Decision-making: A Case Illustration

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Case Manager Resource Allocation Decision-making: A Case Illustration

> *Everything affects everything else. The case manager keeps the wheels turning. They are all wheels that work together and all the little cogs need to be in order for everything to function. (case manager)*

It takes a lot of work to maintain a healthy family life. That work is exponentially increased in families living with chronically ill, and medically fragile, children who have complex care needs. Families provide much of the sophisticated and heavy care to these children (Peter et al., 2007). Home care programs provide care that supports these families in keeping their children at home within the family unit. Case managers working within home care programs are charged with making resource allocation decisions regarding the type and amount of services to be provided for these chronically ill children.

To many people, decisions are choices between competing alternatives, but to home care case managers their decisions are much more complex and are embedded within relationships in a multidimensional decision-making context. Within this context, the process is convoluted, even messy, and outcomes are uncertain. Case managers depend on their relationships with their team to work through the complexity, messiness, and uncertainty that confront them daily in this decision-making context. Case managers work closely with clients and their families as they intricately balance and weigh various influencing factors within system constraints so that children with complex medical needs can be cared for at home. The factors case managers use are reported in detail elsewhere (Fraser, Estabrooks, Allen, & Strang, manuscript to be submitted for publication) (Chapter 4). The factors identified and then categorized by case managers were client-related, family-related, program-related, and system-related factors.

In this paper, we will share a case that resonated with us as we conducted the aforementioned ethnographic study. Our purpose in telling Jenna's story, as told to us primarily through Rosie, her case manager, is to illustrate how case managers balance and weigh the factors that influence them in making resource allocation decisions. We use Jenna's case to highlight important themes that surround case manager resource allocation decisions in the midst of complexity: family as client, the messiness and multidimensionality of the process, and the collective wisdom of the team in this decision-making context.

Background on the Methods and the Case

Our research study was approved by the Health Ethics Review Board at the University of Alberta, and we received administrative approval from the health region in which it was conducted. We used ethnographic methods in the tradition of Spradley, specifically ethnoscience (Spradley, 1979), to uncover the factors that influence case managers in making resource allocation decisions for home care clients in the main study. Ethnoscience is used to study language and, in particular, how people use language to categorize their world. Specific data collection and analysis procedures for the main ethnographic study are fully described elsewhere (Fraser, Estabrooks, Allen, & Strang, manuscript to be submitted for publication). An overview of the research context, participants, and methods is provided here to help situate this case in the study.

We collected data from 11 case managers in a Children's Home Care Program (CHCP) in Alberta. The CHCP is a dedicated program area within the health region where we did the study. We interviewed and observed home care nurse case managers and program leaders who have made resource allocation decisions for children with

complex needs. Data accounts consisted of highly detailed descriptions of unique cases and shared patterns of behaviour that cut across cases.

Spradley's Developmental Research Sequence (Spradley, 1979) guided our simultaneous data collection and analysis in four rounds of data collection. We did participant observation over a 5-month period during general rounds, grand rounds, nursing meetings, team meetings, and inservices in the home care office and shadowed 2 case managers for specific targeted events. The detailed field notes from these sessions, totalling 27 hours, were part of the data set. Most participants took part in all rounds of data collection. The participating case managers were provided with theoretical developments as the study progressed for verification and validation. We used NVivo 7, a qualitative data management program, to organize and store the data. The analytic process was iterative throughout data collection and analysis. The findings were confirmed in final verification interviews and focus groups; we were ultimately able to observe a cohesive picture, taking into account both what case managers did and what they said.

Jenna's story emerged from the data in this ethnographic study. During data analysis it became clear that not all findings could be appropriately represented using ethnoscience methods alone because they do not handle process or contextual data well. Subsequently, we used constant comparative methods (Charmaz, 2000; Glaser & Stauss, 1967; Milliken & Schreiber, 2001) to analyze data that were not conducive to taxonomic classification. Jenna's case came out of the constant comparative analysis.

Jenna's case is an instrumental case study, a specific One (Stake, 2000). An instrumental case study allows for an in depth look at the phenomena of interest, in this

study case manager resource allocation decision-making. Although it is one story among other stories, the time spent engaged with Jenna's story is a case study. It is not the particularities and details of Jenna's own story that are important here, but rather the telling of her story illuminates the processes inherent in case manager resource allocation decision-making. Jenna's case stood out as representative of the way case managers balance and weigh the factors that influence their resource allocation decisions. It also illuminates the three themes that emerged in the data.

Her story came directly from the data sources, as we came to know it primarily through Rosie, the case manager, as well as through several of her team members in the CHCP as they described what they had considered and how they had made resource allocation decisions. The data sources used in the telling of the story were interview data, observations at team meetings and in the shadowing of case managers, field notes, and memos. The accuracy and appropriateness of representation were verified in a focus group with several of the study's case managers.

Jenna's case is a true single case. It is *not* a compilation of various cases nor does it contain any embellishments or facts borrowed from other cases. Names, dates, and places are fictional to protect the identities of all the people involved in the case. Any information that could potentially identify any persons in this story was removed. All other information remains true to the data. There was no alteration made to the clinical-, treatment-, or care-related facts in the story.

We bring you into Rosie's world as she works through the various factors that influenced her resource allocation decisions. By doing this, we hope to illuminate the influence of the home care context on the complex and multidimensional nature of the

decision-making process that is the essence of the case manager's work; that is, the balancing and weighing of factors that influence case managers in their efforts to allocate the right care at the right time and by the right people.

The Case

Several years ago, as a result of an attempt to repair her scoliosis, Jenna, now a 12-year-old, became paraplegic. Her scoliosis was secondary to a rare disorder that causes tumors to grow around the myelin sheath on her spine. In addition to paralyzed lower extremities, she has limited upper body mobility. In July 2006, Jenna developed abdominal sepsis, which led to hospitalization and subsequent complications that resulted in a complete gastrectomy, tracheostomy, and mechanical ventilation. Although Jenna's initial prognosis was poor, she survived, attained a stable health status, and was eventually ready to go home.

In preparing Jenna and her family for discharge, the hospital-based medical team struggled with many difficult medical decisions that delayed her discharge several times. Finally, after 11 months in hospital, the big push was on to get Jenna home. Rosie, although involved in discharge planning over the past several months, did not know all of the reasons leading to the discharge decision, only that she had to move fast to get things arranged for Jenna's care at home.

Prior to Jenna's hospitalization, Jenna had not required home care and was expected to be fairly independent in her future care. She had even performed her own catheterizations. However, after the sepsis and resulting complications, things changed drastically for Jenna and her family. She was no longer able to be independent in her care.

From Rosie's perspective, Jenna's needs were predominantly physical. Although communication was a challenge, she was able to talk a little bit around her trach and also used hand signals to a degree. She was on a ventilator for about 20 hours a day. Because of the gastrectomy, she had a jeujenostomy tube for feeding and a gastrostomy tube for draining. She also had an esophagostomy that drained to the outside of her neck, kept patent with a Mic-Key tube. Jenna required urinary catheterization every 4 hours, a bowel routine, assistance with mobility, and all the care and preventive measures associated with paraplegia, such as maintaining range of motion and preventing skin breakdown. She wore a back brace and braces on both her legs. All of her equipment required daily care, cleaning, and maintenance. Several assessments and treatment plans had to be arranged with other health professionals as well, such as respiratory, physical, and occupational therapy.

During early discharge planning, Rosie and the home care team assessed Jenna's needs and whether her family was willing and able to perform the complex care she required. Rosie believed that Martin and Becky, Jenna's parents, had a solid knowledge of Jenna's care needs before her abdominal sepsis. She was not so certain, though, how aware they were of her present condition and care needs. Rosie believed that now they would have a much harder time coping and caring for Jenna at home, given the increased medical demands and new equipment.

Rosie assessed the family and their resources in relation to what Jenna would need in order to be looked after at home. They were a lower-income family, with Martin being the sole income earner. Becky was a stay-at-home mom. The ages and needs of the four younger children were also considered. Rosie was concerned about the difficulty

Martin and Becky would have in learning and handling Jenna's care, even in terms of understanding the reasons behind some of the required interventions, such as suctioning. At meetings with the home care team, Martin and Becky seemed to have difficulty staying focused on a discussion or task.

Rosie discussed her assessment findings and the information provided by the hospital care team, as well as her own observations and concerns, with her coworkers at team meetings. Rosie thought about Jenna's ability to learn self-care considering that she had been able to learn her care routine in the past. The question was whether or not Jenna was still able to learn *to do* her own care after this difficult illness. Rosie thought that Jenna could direct her own care and perhaps would be able, in time, to learn to do certain procedures, such as suctioning herself. However, she was uncertain about the reasonableness of this given Jenna's young age and she discussed this with the home care team. The team agonized over this and similar issues.

All of the discussions and decisions that needed to occur regarding Jenna's equipment were challenging for Rosie and the home care team as well as for the family. Rosie felt that the issues regarding the ventilator were some of the most difficult. Based on her age and size, Jenna did not qualify for the type of ventilator that her family wanted, primarily due to its small size. Furthermore, a family member had overheard some physicians speaking about a new ventilator undergoing trialing in that region. The family was interested in pursuing this, but did not have entirely accurate information. Rosie and the home care team spent a lot of time with the family in discussions over the ventilator option for home care.

The ventilator also created a subsequent need for a new wheelchair. Jenna's weight, the weight of the ventilator, and the weight of other required equipment (e.g., the external battery for the ventilator and oxygen tanks) necessitated a wheelchair with a different mobility base than her current one; another consideration was that Jenna's weight would increase as she got older. The wheelchair had to be ordered and measured through the Seating Clinic, but specifications could not be determined until the ventilator decision was final. It would take an additional 6 weeks for the Seating Clinic to receive the chair *after* they placed the order, so they needed time to get this in place. Jenna and her family decided on a deluxe model that could not be paid for through the provincial equipment program. The delivery time was longer than for the standard model, so Jenna ended up being discharged home with a temporary manual wheelchair.

Rosie had to explain the options and policies regarding equipment and supplies. Although Martin had a private insurance plan that helped a little, the family was not pleased that some of their choices were not covered under the Ministry of Health program. They wanted a catheter that was a closed system and completely sterile. Because clean technique is recommended in the home, their choice was not covered. They believed that Jenna's previous urinary tract infections were due to not using sterile technique. Unable to convince them otherwise, Rosie prepared several price quotes for the family, as they needed to fundraise to offset some of their equipment choices.

The family held the belief that healthcare is free in Canada. Rosie said, "Beliefs like that are tough to change, especially where in the hospital everything is provided and there are little if any extra charges. That is *not* the case in home care." Rosie believed that that deeply held belief affected her relationship with them. In her experience, when the

first thing families hear from her is, "No, you can't get that" and "This is not covered," her relationship with them does not start off on solid ground. Eventually, however, she was able to develop a caring and mutually respectful relationship with Jenna and her family.

A number of issues arose out of miscommunication and conflicts between family members. Over time, it turned out that Martin and Becky were just not able to commit to large amounts of time for Jenna and her care. Rosie was concerned that caring for Jenna would have been too overwhelming for Martin and Becky because they were already so consumed with four other young children. After Jenna suggested that she live with her aunt and uncle, George and Marlene, whom she had always been close to, all agreed that this was the best option, at least temporarily. Rosie allocated a health care aide for 10 hours per night, plus 20 hours a week of respite, to be provided by a licensed practical nurse. However, because formal guardianship was not pursued for George and Marlene, this created challenges in working with other organizations to coordinate care.

Jenna needed a supportive environment. Her situation was uncertain because no one could determine what her future would look like. If Jenna were an only child, perhaps Martin and Becky could have dealt with the situation. Or, if income was not a concern and they did not have to be at work each day, or if they had particular benefits, for example, vacation pay or sick time, then maybe Rosie would not have been as concerned. Ultimately, however, Rosie came to believe that Jenna would most likely be best cared for if she were living outside of the family home with George and Marlene, at least for the time being. But Rosie acknowledges it could have gone the other way too and that home care would have supported them as much as possible, had Jenna remained

with her parents. What is best in terms of Jenna's health outcomes and her family? No one really knows for sure.

Discussion

This is a story of complexity and relationship. Resource allocation decision-making is inherently complex, a process that is dynamic, multidimensional, and iterative as revealed in this study. From Rosie's perspective Jenna and her family, and their needs, were pivotal. It was Rosie's problem-solving and decision-making activities that kept all of the wheels and cogs in motion—such as the children's health care team, other team members, guidelines, and relevant criteria in regard to the system and its constraints. The process itself was inherently relational, as Rosie surveyed and assessed the connections between and among the many factors at play. Rosie worked *for* the family and *with* the system as she weighed and balanced the factors influencing her decisions and adjusted her approach within an evolving situation. She did this with sensitivity to the relationships and to the *primacy* of the relationships. She demonstrated a keen awareness and understanding of the things that need to happen within this context.

Rosie's decision-making considerations and quandaries as they relate to the factors (Fraser, Estabrooks, Allen, and Strang, manuscript to be submitted for publication) are illustrated in Table 1. Although factors may be similar in each case, what is unique is how they are weighed and balanced in light of the specific client situation and in relation to other factors. For example, in Jenna's case the wheelchair choice had to be considered in light of the ventilator that would be used and in light of the family's beliefs. The decision about the ventilator was influenced by the family beliefs, their experience with ventilators in the hospital, as well as comments made by Jenna's physicians.

The fact that Jenna's health status was stable and that she was able to direct some of her care influenced the level of caregiver assistance in the home. Had she not been as stable, a higher level of care would have been chosen. Her family situation was an important consideration in this case. The initial plan—in which Jenna was to go home with her parents, Martin and Becky, and her four younger siblings—weighed heavily on Rosie. She worried that Jenna would not get the close attention she needed and that Martin and Becky would have difficulty coping. So not only was there a risk in terms of Jenna's health and safety, but there was also a risk to the family as a unit.

Although the factors have previously been reported in a taxonomy (Fraser, Estabrooks, Allen, & Strang, manuscript to be submitted for publication), Jenna's case illustrates how Rosie and her home care team weighed and balanced those factors. In addition, Jenna's story highlights three important themes in resource allocation decision-making in the midst of complexity: the family as client, the messiness of the process, and the role of collective wisdom. After discussing each of the three themes we describe the theory of relational ethics (Austin, Bergum, & Dossetor, 2003) and discuss how it relates to this study, and in particular to Jenna's case.

The Family as Client

Reflecting on this story, it was clear to us that Rosie was deeply concerned with the need to balance the abilities, needs, and beliefs of the family with Jenna's needs, within the resources available. She was concerned that if Jenna remained in the family home, the family might not be able to cope with the additional care demands that Jenna would now have. Four factors concerned Rosie the most in terms of the family: the number and age of Jenna's siblings, the family's socioeconomic status, their beliefs about

their entitlements under the health care system, and their ability to function well as a family.

Given Jenna's additional physical and psychosocial needs, Rosie was concerned that the family would not be able to effectively care for the younger siblings in the home. Rosie was clearly considering the family unit as the client, and consciously considering their needs and available resources, as she worked through the resource allocation process. This particular notion of family as client is not evident in the literature. In one study, "parent as co-client" in the hospital setting was examined, but family needs were addressed on an ad hoc basis rather than as part of a systematic assessment as in this study (Callery, 1997).

This family was a lower-income family, which affected the personal resources they had to cover additional costs outside of the available home care resources and other funding sources (e.g., equipment, mileage expenses, and additional household expenses related to Jenna's care and nighttime caregivers). As other studies reported, it is important to recognize that when care is shifted to the community and the family assumes caregiving roles, they are also assuming the direct and indirect costs of care (Callery, 1997; Kirk & Glenddinning, 1998). The family's beliefs about what they felt they were entitled to for home care services and equipment were not in line with what could be provided through the health system. Working through this was somewhat of a strain on Rosie.

Rosie also felt that looking after Jenna posed a risk not only to Jenna in terms of the time they had to do all of the care and monitoring Jenna would require, but also to the family as a unit. Rosie was concerned that their ability to cope with the situation would

be compromised. Thus, Rosie felt a sense of relief that Jenna was going to live with her aunt and uncle because she believed they would have more time for Jenna and her care needs. There would be no other children to worry about, and overall it was the best option, at least for the time being, for Jenna *and* her family.

Case managers typically allocate services to clients. The findings of this study indicate that they also allocate resources to families. We were told over and over in the course of this study, "You cannot consider a client without also considering their family." We found that family-related factors, which were not prominent in a prior review (Fraser, Estabrooks, Allen, & Strang, 2007, manuscript to be submitted for publication), were, in fact, central to case managers as they considered home care resource decisions for children with complex medical needs. This is reasonable, yet home care policies have been established around the needs of the home care client, with little account for the needs of his or her family (Bjornsdottir, 2002; Fast & Keating, 2000; Peter et al., 2007; Ray, 2002). Operational directives are often very specific, requiring that resources be allocated based on the assessment of *client* needs. There is no mention of the family's needs or considerations, even though the presence of family is a key factor in determining whether children and adults alike are able to be cared for at home (Bjornsdottir, 2002; Leiter, 2004; Levine, 1999).

Home care policy needs to better reflect the needs of families in the allocation of home care resources. Rosie related the deep concern she felt when Marlene had no one to cover some nighttime care shifts, and, to meet that need, Martin was going to take a few days off work. Since current home care policy does not allow for parental reimbursement to provide care, Martin and his family suffered financial hardship, as he lost pay on those

days. Rosie was bothered by this but there was nothing more she could offer in that instance.

Policy reflects particular values, and this particular policy is rooted in a set of values that would interpret such payment to family members as an inappropriate conflict of underlying interests. Policies deal with the general case; what this particular case demonstrates, however, is that there is potential benefit to society in explicitly recognizing and supporting the role and contribution of families in meeting such complex care demands. Maintaining the capacity and resilience of families to provide care in the home could be better achieved through policies that emphasize better and more supportive economic benefits for families, such as greater tax credits or rebates. In a recent positive development, the Canadian federal government recently amended taxation legislation to provide up to $10,000.00 annually in tax credits to offset the costs of caring for a family member at home. Further research and policy analysis is necessary to address this issue more fully.

While there is a lot of literature available on the involvement and participation of the family, namely the parents, in the care of children, such research has been predominantly within the hospital context (Callery, 1997; Hallstrom & Elander, 2004). With the growth in pediatric home care, a dialogue has begun on family participation specific to the home care context (Kirk, 2001; Ratliffe, Harrigan, Haley, Tse, & Olson, 2002). At this point, however, consensus has not yet emerged on what the family's role should be and how best to support them. Because the field is relatively underdeveloped, we do not know enough about the effects on families of caring for a chronically ill child at home. It is important to examine this, and especially from a broader societal

perspective. If clients depend on their families in order to be cared for at home, then the family's role and involvement in care needs further exploration. It is clear in this study that families must be willing and able to perform the care for their children before home care can be put in place, and it seems to us, based on the data in this study, that perhaps the family unit is actually the client.

These theoretical notions are not intended to imply that the family is not considered by clinicians; indeed family-centered approaches to care are very evident in the literature and have been for more than 35 years (Betz, 2007). Notions of family-centred care are discussed in terms of the burden of care and respite (Kazak, 1987; Neufeld, Query, & Drummond, 2001; Ostwald, Hepburn, Caron, Burns, & Mantell, 1999), the notion of family as partner in care (Mayer et al., 1990; Ward-Griffin & McKeever, 2000), experiences of family caregivers (Haley & Harrigan, 2004; Kirk, 2002; Ward-Griffin, 2001), and more generally in terms of family-based practice and family-centred care literature (Kaufman, 1992; Neufeld et al., 2004; Skemp Kelly, Pringle Specht, & Maas, 2000). Nurses in this study do practice family-centered care and that philosophy is part of the vision of this home care program but this study's findings indicate that the family unit might actually be the client. Case managers, although they explicitly assessed family needs, as they did client needs, struggled with this. There was no formal preparation on how to do this and home care policy indicates that services are allocated to individual clients, not to families. Further research needs to be done in this area.

In a review of strategies for studying family nursing, Marcellus (2006) reported that research on families and the health of families is complex (Kazak, 2002) and that the

field of family research is becoming more sophisticated to address these complexities. Research in family nursing has been criticized in the past for being underdeveloped (Baumann, 2000). Families are changing, and the realities faced by families in caregiving contexts are changing. Further research needs to be done to determine the role of the family in caregiving/receiving contexts. Specifically, is the family a partner, a caregiver, a client, or a dimension of the client? The concept of the family as client as identified in this study has not been adequately addressed in the literature to date.

The Messiness in the Process

There are two phases in determining resources for home care. In Phase 1, information gathering and observation are key activities, undertaken with both the client and the family. The case manager determines whether the client is eligible for home care. A lot of time is spent working with and negotiating with the client's health care team. The case manager seeks to understand the client's disease state, health status, and functionality. During this phase, the client AND family are assessed. Once the case manager determines eligibility for home care, he or she seeks answers to the following questions: Can the family (namely the parents) do the care and will the family do the care? If the answer to either of these questions is uncertain, or no, then a plan is put into place to either move the answers to yes, or to examine options other than caring for the child at home with the parents. If the answer is yes, then the case manager moves into Phase 2. It is then that much more detailed information is sought, plans become solidified for home care, and an intense period of coordination begins.

The notion of whether parents can and will do the required care has been found in one study, but, interestingly, that study reported that parents were rarely asked whether

they *wanted* to do the care (Kirk, 2001). Rather, it was assumed that they did want to, and that they *would* do the care, so discharge proceeded on that assumption. In contrast, case managers in this study said that asking these questions explicitly was pivotal to continuing with the discharge process. If the parents were not willing and/or able to provide what is often continuous care when caregivers are not present, then other alternatives such as foster care or placement in a facility need to be considered.

In Phase 2 of the process, a multitude of things must be assessed before the case manager can allocate resources. These include necessary equipment, supports that the family currently has in place, and the safety of the home environment. Final determination of home care services needs to wait until many other things are in place, which can create challenges for case managers. Whether it is coordinating equipment, delivery times, or waiting for other professionals to do their part, home care services cannot be finalized until nearly the last minute. The child's health status or condition can change in the meantime, creating a need for the case manager to reassess what he or she initially might have allocated.

In Jenna's story, Rosie worked with her physicians, rehabilitation professionals, hospital nurses, Jenna and her parents, and her extended family. Information gathering took a lot of time and often information needed to be rechecked in light of new information. Rosie had known the family for a few years prior to Jenna's hospitalization, which is why she was intimately familiar with their coping ability and family support. Long-term relationships of this kind often take place between case managers and families who have chronically ill children. The home care context allows for this sustained engagement, so necessary for the development and maintenance of relationships.

There is still much to understand and make clear in this second phase. There may be several remaining unknowns or uncertainties, as Rosie said a few times in her story. She had yet to determine the answer to many of the day-to-day practicalities. Home visits or trial discharges may occur at this phase to help further delineate these practical issues. For example, the case manager and the family need to determine the best place to provide care. Will it be mainly in a living room or a bedroom? And is the space appropriate and sufficient? If not, what do they need to do to make it work?

The socioeconomic status of the family is considered at this point as well. For families who get home care, things most people do not need to be concerned with are important, such as extra flushing of the toilet or more running of water for cleaning equipment and handwashing. There may be extra laundry because caregivers might use more towels and facecloths than the family would under usual circumstances, and so on. All of this creates an added financial burden on the family. In Jenna's case, affording the choices and preferences for things not covered by the home care program was also a key issue. Through other funding sources, the family could potentially be reimbursed for additional costs. Yet, even though these additional funding sources were available, dealing with guardianship and getting agreements signed were other complicating factors. Almost every home care client will require funding additional to what is provided by home care programs. This may have to be met from personal out-of-pocket expenses or it may come from a third party such as an insurance company or another ministry.

Once the discharge date is imminent, dialogue, data gathering, and assessment are ongoing. The case manager considers the learning needs of caregivers and family members, the equipment requirements for home health care, and the need for respite

services for the family. The case manager continuously refines this assessment based on emerging needs and contingencies. Indeed, the assessment continues until after the client goes home, with necessary adjustments being made to the plan. It remains a work-in-progress for a long time, until the case manager is confident that he or she has allocated the right resources for each family.

Collective Wisdom: Team Experience and Decision-making

The study also revealed the essential contribution of the collective wisdom of the home health care team within the complex, relational, and dynamic process of resource allocation decision-making for children with complex needs. We witnessed case managers consulting with their team to reflect on their perceptions and judgements, deliberate about their decisions, or ask for advice on their decisions. Case managers generally determine what they believe to be important to their case and share the plan with the team for input. After collecting data from assessments, and in dialogue with other members of the child's health care team, they come up with a tentative plan. This plan is brought back to "Team" for reflection, deliberation, and advice as necessary. We are told that in most cases their individual decisions are more or less synchronous with those of the team. However, where team input is invaluable is with newer or less experienced case managers, before they are indoctrinated into the culture of the team, and when unusual circumstances surround a case.

The individual draws not only on his or her past experience, but also on the past experience of the whole team. Notice how, in the story, Rosie refers to past experience; it is not her own past experience she is referring to, but rather it is the "Team's" past experience. She has been on the team for only a few years, but the past experience she

and others refer to is the 12 plus years this team has been in existence. The language of their past experience is owned by all of them, whether they have been there for a dozen years or one year. This team believes that they make better decisions, based on more fundamentally sound reasons, than they did when the program first began and that their past experience and collective wisdom are reasons why they do things better today.

Although variability has been reported in past literature on case manager decision-making (Corazzini, 2000; Hirdes, Tjam, & Fries, 2001), within this team there was little variability reported between cases and among case managers. Based on this study, team decision-making may have potential to decrease variation in decisions. This notion of team decision-making is not reported in the literature on case management. The literature portrays a picture of autonomous case managers working in relative isolation and applying policies to the best of their abilities. They have been reported to modify policies as they attempt to juggle and balance competing factors to create a plan that meets the needs of clients and families and satisfies system goals (Corazzini, 2000; Fraser & Strang, 2004). Thus, the structure and functioning of this team could mitigate case managers' individual balancing and weighing of competing factors and lead to decreased variance in decisions.

Reflecting on the influence of the Team on resource allocation in Jenna's case, Rosie said,

> Although I am Jenna's individual case manager, I have got a team that supports me and my decisions about what is best for Jenna. I discussed this case with the team as we often do… and my two supervisors. I very much felt that this family could manage this child with a lot of support in the home. … We felt that in terms

of the family situation, it would have been a lot on their plate to have all these medical needs to now deal with on top of what they already have going on.

Although case managers can describe the factors they consider in their decision-making, the interrelatedness among and between the factors remains muddy. The level of importance of the factors that are considered in the decision-making process varies, depending on each unique case and the contextual circumstances. The clinical judgement and knowing of the case manager and the team together is salient to the processes of balancing and weighing. It appears that the clinical judgement and knowledge of the team may mitigate potential variability that can occur if case managers work in isolation.

The Lens of Relational Ethics

The language used and the processes observed throughout this study in general, and the interplay between and among the people and the factors in this case study drew us to the theory of relational ethics (Austin, Bergum & Dossetor, 2003) as a useful lens from which to view case manager resource allocation decision-making. The major premise of relational ethics is that ethical practice is situated in relationship. It is within close relationship with others that health professionals take their cues on *how to be* and *how to act*. Rosie knew how to be in relation to the people and processes and she acted accordingly. She took her cues from Jenna, her family, other professionals involved in Jenna's care, as well as from her own home care team.

The theory of relational ethics was a result of a research project at the John Dossetor Health Ethics Centre at the University of Alberta, Canada. Funded by the Social Sciences and Humanities Research Council of Canada from 1993 – 2003, its purpose was to clarify the ethical commitments required in everyday health care situations. The core

elements revealed as necessary for a relational ethic are: mutual respect, engagement, embodied knowledge, uncertainty or possibility, and the environment (Austin, Bergum & Dossetor, 2003).

Reflecting on Rosie's balancing and weighing of the factors and on the three themes illuminated in this case study the inherent relational ethic is a thread that pulls the process together. The relational aspect of the processes as we came to know them through Rosie are evident in a memo written by the first author early in the data collection and analysis phase of the study named 'relational nursing'. The description of the relational nursing memo said "it is about the kind of nursing case managers are doing". Relational ethics is a way of being and acting in health care practice.

> I am beginning to "feel" [relational nursing] in my data…the nurses are really in relation with people. Lots of people in some of the saddest and challenging of situations. These kids they care for and their families so need special people, special experts with so much knowledge to be there for them. They [case managers] need expert knowledge, they need practical knowledge, they need personal knowledge…I am seeing not just ways of nurses' knowing, but *about* how these nurses need and apply all ways of knowing. How they apply it in discrete and expert ways. It is a gift they have. (Fraser, written memo, August 31, 2006)

To examine this quote through the lens of relational ethics we have a view of what is going on in this relational context. Although this quote was not written specifically about Rosie or this case, it addresses both the generalities of case manager resource allocation decision-making processes and the particularities of this case study. Mutual respect is enveloped by the reality that we depend on one another and that our experience is shaped by attitudes; by our attitude towards others and theirs towards us. Rosie engaged in mutually respectful relationships with Jenna and her family and through that experienced some of their anguish and difficulties in their reality. Her connection to them and the

interconnection with other members of the health care team is apparent in her telling of Jenna's story. Other case managers shared similar stories of genuine engagement with the people with whom they work: clients, families and other health care professionals.

The authors of the theory of relational ethics say that embodied knowledge calls for a "healing of the split between mind and body" and an integrated awareness, so that scientific knowing and human compassion are given equal weight and emotion and feeling in ethical action receive due and appropriate attention (2003, p. 47). Rosie demonstrated a wide array of knowledge sources as she engaged with all of the players throughout the process. She demonstrated the interplay of emotion and feeling with her knowledge through the deep concern, and even torment, she sometimes felt while working through the process with the family and other health care professionals.

These authors state that the world cannot be made simple through ethical reflections and deliberations and that we ought not to act as if we could make it so. Uncertainty, an inherent condition of human existence, opens possibility and they believe we should embrace it. Rosie engaged often with her team. Often these discussions were ethical deliberations. She knew Jenna's future was uncertain. She believed she did the best she could with and for Jenna and her family given the realities she was working with. She found a way to make things work for Jenna *and* her family within her practice environment. She recognized that uncertainty remained and she demonstrated awareness and comfort with the uncertainty as it was.

Acting ethically, according to the theory of relational ethics, is about commitment (Austin, Bergum & Dosseter, 2003). It is about commitment to the client and family, and to the relationship. Rosie demonstrated this commitment by *working through*, by

exquisitely *balancing and weighing* what she has come to know, by *building connections* with *sensitivity* and *a keen awareness and understanding of the things that needed to happen*. Bergum (2003, p. 127) writes that "the most complex form of knowing, inherence, means living locally – an ethic of care and responsibility toward the place where one lives. Inherence also means to return to individual experience to discern personal meaning of life's reality. …listening to the earth's rhythm and beat – an attentiveness that needs time and space". Rosie came to know what factors were important to Jenna and her family through inherent relation with others. It was through a relational process that she was able to be attentive to the players, their needs, and their environment as they lived their reality. In this context, sustained engagement in the relationship provided the necessary time and space to determine the best course of action for Jenna and her family.

Conclusion

The case illustration in this manuscript demonstrates the weighing and balancing that occur through an inherently relational process as the case manager considers all of the factors in resource allocation decision-making. It contributes three insights that are a significant contribution to the literature on case manager resource allocation decision-making: the family as client; the messiness of the process; and the role of the collective wisdom of the team. This new understanding is important in that it facilitates supporting case manager practices with appropriate tools and resources, such as policies and opportunities for team decision-making. Importantly, it pushes us to reconsider how we conceptualize the family in home care service delivery. This is a new theoretical development, albeit preliminary, in the home care literature.

If case managers' resource allocation decisions affect the type and volume of care and subsequently client health outcomes, then case managers need to be able to describe the what, why, and how of their decisions. If they are not able to do this, how can they be accountable for their actions? From a research perspective, we need to get closer to understanding how their knowledge, skill, and actions affect client outcomes. We need to know what matters. In Rosie's case, in relation with Jenna, her family, and the other health professionals involved, Rosie's knowledge, collective experience, and decisions did matter.

Table 1. Factors in Case Manager Resource Allocation Decision-making and Core Elements of Relational Ethics as Illustrated in Jenna's Case

The Taxonomy of Factors		**Examples of the consideration of the factors in resource allocation decision-making**	**Relational Ethics**
Category of Factor	**Factors**	**Jenna's Case**	**Evidence of Core Elements**
System-related	Home Care Program	Rosie is guided by policies of the program and eligibility criteria.	Environment
	Hospital	The wait-times for the wheelchair ordered through the seating clinic postponed discharge. Various consults and opinions of other health care professionals affect discharge date; decisions made to do various interventions in hospital can affect the clients' health status on discharge, which subsequently affects level of care to be provided in the home.	Environment Engagement
	Health Care Team	Rosie felt that if the hospital team had introduced some of the options for equipment, her relationship would have gotten off to a better start with the family. The family overheard physicians discussing equipment and misunderstood what was available in home care.	Engagement Environment Mutual respect

Program-related	Case Manager	Rosie worried about the family's ability to cope. She had been involved in other situations where families had limited support, and this affected her view of Martin and Becky's ability to cope with Jenna at home with them. She was subsequently relieved when she found out Jenna would be moving in with her aunt and uncle.	Embodied knowledge Engagement Environment Uncertainty/Possibility
	Resources	The family situation (Marlene did not have formal guardianship) was complicated. With no formal guardianship, other funding resources could not be accessed. Marlene's home happened to be in a rural area, and caregiver availability was an issue. Family choices for some equipment were not provided through the provincial home care equipment program, so they had to do additional fundraising and they relied on Rosie for quotes and information about their equipment choices.	Environment Engagement Uncertainty/Possibility
	Guidelines	Case managers followed guidelines they had in place for the care and treatment Jenna would have at home.	Environment

	Criteria	The family chose self-managed care, so they were responsible for hiring their own caregivers. With limited caregivers available, some shifts were vacant, but the criteria of the program did not allow family members to be paid, even though they were willing to cover the shift.	Environment Mutual respect Uncertainty/Possibility
	The Team	The team was involved in resource allocation decision-making, as Rosie presented the case at team meetings and discussed the case and options with her colleagues. She was able to draw on the collective experience of the team in this complex case to help her work through some of the complicated dynamics in her relationships with the family and with the hospital-based health care team.	Mutual respect Engagement Embodied knowledge Environment
Client-related	Health Status	On discharge, Jenna was stable and had predictable outcomes, so she was eligible for a health care aide. Had her health status not been so stable, she would have been allocated nursing hours rather than health care aides.	Uncertainty/Possibility Environment

	Risk to the Client	The younger siblings might have interfered with Jenna's equipment at home. Since there was so much going on in the family, Rosie was worried that this would pose an additional risk. However, because Jenna could communicate to a degree and direct her care, Rosie felt that helped to lower the risk to Jenna.	Uncertainty/Possibility Environment Embodied knowledge Mutual respect
	Health Assessment	Jenna was stable and her responses to the various treatments were predictable. Rosie assessed Jenna's health using standardized tools that the home care program uses, and information from Jenna and her family as well as from Jenna's hospital-based health care team and from observations over the several months leading to discharge.	Uncertainty/Possibility Environment Embodied knowledge Engagement
	Client Needs	Jenna would need care hours allocated, new equipment, and home modifications. She also needed a supportive environment.	Environment Uncertainty/Possibility Embodied knowledge
	Complexity	Jenna was a child with complex medical needs. Her health status, although stable, was complex and outcomes uncertain. Her family situation was complex as were her treatment requirements.	Uncertainty/Possibility Environment Mutual respect Embodied knowledge Engagement
Family-related	Number of Children	The four younger siblings in the home were a concern to Rosie. She was relieved that Jenna would be with her aunt and uncle where there were no younger siblings.	Environment Embodied knowledge

	Beliefs	The family's beliefs about what should be provided as opposed to what could be provided created tension between Rosie and the family. They believed certain procedures should be carried out in the same way at home as in the hospital (e.g., sterile catheterizations).	Environment Embodied knowledge Mutual respect
	Family Support	Because the extended family was small and out of town, Rosie was concerned that the family would not be able to cope as well as some other families who had lots of family support.	Environment Uncertainty/Possibility Embodied knowledge
	Marital Status	Martin and Becky could support each other and look after their children, but with Jenna's high needs Rosie was concerned about the strain on their relationship if they could not cope well.	Mutual respect Engagement Embodied knowledge Environment Uncertainty/Possibility
	Risk to the Family	Rosie was concerned that inability to cope well would create a risk to the whole family unit and to the marital status. She was concerned that the other younger children might be unintentionally neglected due to Jenna's care requirements and that Jenna could be unintentionally neglected due to the demands of the other children.	Mutual respect Engagement Embodied knowledge Environment Uncertainty/Possibility
	Coping	The ability of the family to cope was a concern because there was little other family support other than Marlene and George out of town and because of the high needs Jenna now had.	Mutual respect Engagement Embodied knowledge Environment Uncertainty/Possibility

	Socioeconomic Status	They were a lower income family. Martin was the sole income earner. His employee health benefits were accessed for some equipment and supplies that could not be provided through the ministry. If there was a crisis and with little other family support, Martin could not afford to stay home from work to support Becky with Jenna and her siblings.	Mutual respect Engagement Embodied knowledge Environment Uncertainty/Possibility

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Chapter 6. Summary, Contributions, and Conclusion

Summary

Home care is growing at unprecedented rates in terms of both numbers of clients and level of acuity. There are now more clients than ever receiving high volumes of "high-touch" and "high-tech" care. The resource allocation decisions that case managers make directly affect client and family health outcomes and overall system resources. The collective findings from this dissertation and its projects and products result in a clear yet complicated picture of case manager resource allocation decision-making in home care.

The various bodies of knowledge examined (Figure 1.1) contributed to this dissertation in several ways. First, existing knowledge was used to understand nurse case manager resource allocation decision-making in home care. Second, the fields I examined contributed to identifying the knowledge gaps in this area and in the formulation of my research questions. Third, they were helpful in interpreting the findings of my empirical work on case manager resource allocation decision-making in home care and in locating the findings of this work within existing knowledge.

In this study, I identified and classified several factors that influence case manager resource allocation decisions and determined that these factors are not considered in isolation rather each is considered in relationship to the other in a messy, often convoluted process. While the factors that influence decisions from case to case may be similar, the weighting that case managers assign to each factor in each case may be different. However, even though case managers did not assign a specific weight to the influence of the family, they consistently ranked this factor very high in terms of resource allocation. It is a complex process. Contributing to the complexity of the decision making

process is the dynamic environment of home care. The interaction with their team members is a strategy case managers use to assist them in making resource allocation decisions and to deal with the complexity embedded in the process and in their environment.

This dissertation provided knowledge about home care resource allocation from philosophical, theoretical, and empirical perspectives. This is the first time factors that influence case manager resource allocation decision making have been empirically identified and classified. The differences uncovered between the expected taxonomy, based on our systematic review of the literature, and the observed taxonomy, based on this research are significant. Although the focus of my dissertation was specifically on case manager resource allocation decision-making behaviours, the combined results:

1. illuminated nurse case management decision-making, including resource allocation decisions, from a philosophical perspective (Paper 1),
2. portrayed existing knowledge gaps through a systematic review and provided suggestions on ways in which we might begin to address these gaps (Paper 2),
3. identified and classified the factors that influence case manager resource allocation decisions using an ethnographic approach, and further expanded on the expected taxonomy (Paper 3),
4. illustrated the influence of the home care context on the factors case managers consider in resource allocation decisions, particularly the influence of the family on decisions, and the collective wisdom of the home care team as a decision-making strategy (Paper 4).

Limitations

The Systematic Review

We specifically established our inclusion criteria to set boundaries on our study. We included only those studies that focused on case management or home care decision-making as noted in the title, abstract, or key words. We therefore may have unintentionally omitted studies in which the focus was not clearly identified. We chose to include only published empirical work in this review. As studies with negative results are often not published, they were not included; therefore, there is a potential reporting bias toward positive results. In this area, there is a considerable amount of information on resource allocation and case management in the grey literature that was not included, also contributing to a potential reporting bias. A priori we elected to eliminate studies with a low quality assessment from our final data set. Although our review included only studies published in English, no studies in other languages were found. The limited number of and heterogeneity of studies did not enable us to do a meta-analysis. Our choice was to do a qualitative synthesis using content analysis and vote counting. Vote counting did not allow us to account for effect sizes (Grimshaw et al., 2003) and so we attempted to account for this by providing sample sizes, p-values, and confidence intervals of the primary studies in order to disclose as much information about the strength of the findings as we could.

The Ethnographic Study

This study was carried out within one particular home care program with a specialized client base, pediatrics. These findings may not be applicable to other home care programs, and the results of this study should be considered with this in mind.

However, I sampled for maximum variability (Patton, 2002) in regard to a number of case manager characteristics. That is, in order that these findings would be applicable in similar contexts, the sample varied on a number of characteristics, including years of experience as a nurse and as a case manager, length of time on the team, background, education, and role. I also spent a significant period of time with this team during the data collection process and observed their work in a number of different settings, including the home, office, hospital, as well as one-on-one, and in both small and large groups (Morse & Field, 1995).

I made a concerted effort to be as reflective and self-aware as possible throughout this study in order to remain true to the data. Prior to starting the study, in addition to documenting my preconceived beliefs, I was also interviewed by a committee member in an attempt to uncover and disclose any biases and notions that might affect my study. This interview was audiotaped and transcribed and reviewed with my committee prior to entering the field. I checked my hunches and findings early on, and throughout this study, with my supervisor and my committee. I also relied on a peer, a nurse leader in a different health region, as an additional source of critique. I carried out verification activities with my participants in the final rounds of this study. The findings rang true for the participants. They told me that this study validated their work and that it was represented appropriately and accurately. These efforts contribute to my confidence in the internal validity of this research.

A final limitation is that this work is from the unique perspective of the case managers and program leaders in one pediatric home care program. All participants in this study were nurses, so the findings might not be applicable to a case manager role in

other disciplines. To examine this question from the perspective of administrators and policy-makers, from the perspective of other disciplines in a case management role, or from the perspective of families may well produce different results. Although these other perspectives would undoubtedly provide new and different knowledge, the phenomenon of interest to me in this study was case manager resource allocation decision-making from the particular perspective of nurse case managers.

Scholarly Contributions

This dissertation has contributed new knowledge in several ways. The greatest contributions are the differences between the expected and the observed taxonomy of factors that influence case manager resource allocation decisions and the role and place of the family in these decisions. The findings of the ethnographic study verified and extended the taxonomy of factors reported in the systematic review and uncovered three themes in case manager resource allocation decision-making: the complexity and messiness of the resource allocation decision process, the family as client, and the collective wisdom of the team. Some important and unexamined issues in regard to families in home care were uncovered such as the significant influence they have on case managers' resource allocation decisions. While there *is* substantial research in the area of family, including the role of the informal caregiver and the family as a partner in care, it has predominantly focused on the burden of care and respite issues (Fast & Keating, 2000; Varga-Toth, 2005).

The findings indicate that case managers allocate resources not only to clients but also to families. Recognizing and understanding the significant role of the family, and the effect their role has, not only on the health outcomes of the client but also on the family

unit and on society in general, are issues that need to be addressed. These are critical issues in light of the staggering growth in home care, not only for the subpopulation of pediatrics, but also for all home care client groups.

Although home care case management research is still in its infancy, my work contributes to the work of other researchers in this domain. This study supports the complex and ethical nature of this decision context reported by other researchers (Carr, 2001; Corazzini-Gomez, 2002). In this study, as reported in the third paper, we found that case managers made resource allocation decisions, at least in part, in a team context where they discussed the complexity of their cases and their decisions. One use of the team was as a forum for working through resource allocation decisions and some of the thinking and deciding in regard to equity and fairness they believed to be important. This is a different depiction of case manager decision-making than is portrayed in the literature, where case manager decision-making is cast as an individual endeavour.

The case management literature reports variability between case managers' resource allocation decisions, both between different case managers and between different decisions by the same case manager (Corazzini, 2000, 2003; Corazzini-Gomez 2002; Hirdes, Tjam, & Fries, 2001; Lemire & Austin, 1996; Luker et al. 1998). While the present study did not specifically study variability in decision-making, the case managers in this study felt that their use of the team in resource allocation decision-making helped to make their decisions consistent with one another and consistent between cases. Perhaps team decision-making has potential to mitigate variability.

My analysis and my thinking drew me to theories that are ethical in nature. In Paper 3, I related case manager resource allocation decision-making to Daniels and

Sabins' (2002) *Accountability for Reasonableness* framework, a theory that is useful in complex and ethical decision contexts. Given the ethical decision context within which case managers' work and the complexity of resource allocation decision-making processes, it is a highly relevant theory that I believe has potential to advance knowledge in this area. Accountability for Reasonableness provides a framework for the decision-making in which case managers engage, specifically their use of the collective wisdom of the team. It has potential to move the process of team decision-making from a fairly unstructured process to a structured, more intentional strategy in resource allocation decision-making, as it has been useful in other ethical decision-making contexts in health care.

In Paper 4, I drew on the *Theory of Relational Ethics* (Austin, Bergum & Dosseter, 2003). This theory is premised on the relational nature of daily health care practice. This theory attempts to ground the ethics of health care practice in our commitments to one and other. I demonstrate the application of this theory to a case study and illustrate the core elements of this theory as they fit with the findings of this study. This theory is fitting given the ethical nature of resource allocation decision-making and the inherently relational nature of case management practice.

Theoretical Synthesis

In the course of this work I discussed three different lenses from which to view and understand what is going on in case manager resource allocation decision making. I drew upon the philosophical perspective of *Moderate Realism* in Paper 1, then in Papers 2 and 3 I respectively drew upon two theoretical perspectives, *Accountability for Reasonableness* and the *Theory of Relational Ethics*. Each perspective offers a unique

view that helps us to understand case manager resource allocation decision-making in home care. The particularities of the theories and what each perspective offers to our understanding are addressed in the respective papers.

The three perspectives I put forth are related in several key aspects. All perspectives incorporate the ethical principles case managers told me they wish to uphold in their resource allocation decisions, primarily justice and equity. All perspectives acknowledge the many stakeholders whose perspective and input is necessary in this complex decision context. All perspectives value several sources of knowledge, yet they may conceptualize these sources in somewhat different ways. And importantly, they all acknowledge the dynamic relational environment within which case manager resource allocation decisions occur.

Whereas I view moderate realism as a broader philosophical perspective than those I drew upon in Papers 3 and 4, moderate realism is not so broad as to not be useful from a practical perspective. It was useful in my early work in looking at what we knew and what were the gaps in our knowledge about case manager resource allocation decision-making. It was useful in understanding the ethical dilemmas that arise when case managers are faced with reconciling system-centered and client-centered goals and that case managers take a common-sense approach to reconcile this dilemma. It also addressed the provisional nature of knowledge in resource allocation decision-making, which is acknowledging that reasons for decisions make sense in light of the current available evidence, a notion that also exists in the two theories I presented.

Accountability for Reasonableness addresses this common-sense perspective in case manager resource allocation decisions as well. This is evident when examining the

reasons on which resource allocation decisions are made; that is, the reasons ought to make sense and be reasonable to all stakeholders. *Accountability for Reasonableness* addresses ethical principles such as fairness and states that resource allocation decisions ought to be fair and reasonable within the existing decision-making environment (i.e., within existing resource constraints). While I did not *test* the sensibleness of the reasons per se, the case managers believed the factors they identified were sensible and reasonable not only from their perspective but also from the perspectives of the family and other stakeholders as well.

While the philosophy of moderate realism and the accountability for reasonableness theory take a principle-based approach to ethics, the theory of relational ethics takes a relational-based approach to ethics. Further, each represents a different epistemological position, objective realism and subjective idealism respectively. The use of varying theoretical and philosophic perspectives underpinned by different ontologic and epistemologic claims often raises the issue of incommensurability. That is, the argument that these different theories cannot be compared as they "practice their trades in different worlds (Kuhn, 1970, p. 150). While it may be that these theoretical perspectives cannot be measured against each other point by point, as Letourneau and Allen (1999) correctly argue, they are not incommensurable in terms of meaning and there is indeed overlap between competing perspectives. For example, the principles important in both moderate realism and the accountability for reasonableness theory are not dismissed in the theory of relational ethics. Rather the theory of relational ethics contends that adhering to bioethical principles *alone* is not sufficient in ethical contexts. The authors of the theory of relational ethics state that these principles can be incorporated from within

the theory of relational ethics. Relational ethics incorporates both justice *and* care and acknowledges a context where knowledge *and* compassion are given equal status.

Within moderate realism prudential reason is required in all decision making. That is, evaluation, judgment, and reflection are required in every situation (Blondeau, 2002). All practical decisions then are ethical ones. This notion is reflected in both relational ethics and the accountability of reasonableness frameworks. Comparable to Kuhn's early notion that incommensurable paradigms offer different 'visual gestalts" of the same world (Kuhn cited in Sankey, 1993, p. 764), each of these three perspectives offer useful lenses from which to understand case manager resource allocation decision-making. The next requirement is to more fully evaluate and challenge each of these perspectives to ascertain which offers a better or worse argument in support of resource allocation decision making.

There is an urgent need for further knowledge development that contributes to a resource allocation theory that is useful at the level of the practitioner within the ethical and relational nature of their practice environments. We need to know that our limited health care resources are being allocated to the right people, in the right amounts, and that care is being delivered by the right provider. This study hints that the family unit might actually be the client, or certainly a dimension of the client. If families are actually the client, or a dimension of the client, then we need to provide the right kind of supports and services that will help case managers do what is best not only for the client, but also for families.

While I hope that other researchers build on this work, my next steps will be, first, to examine further the specific nature of the family as an influencing factor, specifically

the remaining question: Is the family a dimension of the client, or is the family the client? Second, I plan to examine these findings in relation to other home care populations. These next steps will form the basis of my future program of research.

Clinical Implications

There are two important clinical implications of this study. First, the findings of this research indicate that we should be looking at the role of the family differently, that is, as a dimension of the client, rather than as a separate entity. Perhaps if the family were viewed along with the client in a more holistic paradigm, and if resources were determined on that basis, then we might get beyond a piecemeal and fragmented approach to home care.

Second, the case managers in this study clearly used their team as a decision-making strategy in this context. They shared case stories and sources of conflict they encountered in making resource allocation decisions. They reflected collectively on past experiences, in addition to envisioning possible outcomes for clients, in order to come up with the best solution in light of the information they had. The findings in this study suggest that the variability between the decisions of case managers may be mitigated by team decision-making.

Policy Implications

The implications at a policy level are two fold: care and costs. First, the family is the reason many home care clients, especially those with high care needs and chronic conditions are able to be cared for at home. The volume of direct care hours provided by family members is well documented in both the scholarly and policy literature. On a fundamental level, many clients with complex needs, including children, would not be

receiving care at home were it not for the direct care that must be provided by family. Clients, and especially children, would not be cared for at home without the presence and contribution of family.

Second, although the federal government has recently made an effort to recognize the contribution of family through the implementation of a $10,000.00 caregiver tax credit, this is insufficient. If children, such as those in this study were not cared for at home, at an average cost to government of $250.00 to $300.00 per 24 hour period, the increased cost to care for such children in hospital would be substantial. Family investment in home care in Canada is significant as documented in the literature and as discussed in Papers 3 and 4 of this dissertation. A tax credit, for such a burden on families and their contribution to care provision, should be meaningful and potentially greater than $10,000.00. A figure at a wage replacement level for the primary family caregiver would be potentially reasonable.

The findings in this study suggest that policy change is necessary. At a minimum dialogue on this issue needs to begin with intention toward meaningful and actionable solutions. This dialogue perhaps should occur with all stakeholders and be outcome-oriented; that is, to improve the situation for families.

The policy issues raised here are complex and ones where easy solutions are unlikely. Home care in Canada is funded at the provincial government level and is administered and delivered by health regions in most provinces. The tax credit referenced in this dissertation is at the federal policy level. As home care programs grow families contribute more direct care and bear the burden of additional costs. Case managers acknowledge this burden on families, such as costs for durable and disposable medical

equipment, medications, and increased usage of utilities due to increased care-giving needs provided both by family members and paid caregivers. Many of the costs incurred by families for home care are covered by provincial health programs when clients are cared for in hospital.

Conclusion

The scholarly work in this area to date has been fragmented and the findings equivocal. Therefore, the empirical research that I carried out was descriptive research, necessary before larger scale implementation studies can be designed. To the best of my knowledge, this is the first time a taxonomy of factors that influence case manager decision-making has been published, and this dissertation is the first empirical verification of it. Having a clearer picture of decision-making processes in this context is important to case managers, to families to whom they allocate resources, and to society in general. To further examine this phenomenon from the perspective of the family and society in general will further inform case management practices so that they can be appropriately supported to make resource allocation decisions that are effective, fair, and consistent.

I remain highly motivated to continue study in this field, even more so since completing this research and in view of the gaps that remain. I believe that case managers' resource allocation decisions ought to be supported with processes that are intentional and with resources and policies that sanction their work. We need to provide knowledge so that case managers are confident that they are making decisions that are based on reasons that matter; that matter to clients and families in terms of better health

outcomes; and that matter to the system and society in terms of appropriate resource expenditures (effectiveness) and distribution (equity).

Home care leaders at the Public Policy Forum on the Future of Home Care in Canada (February 5, 2007) identified the need to focus on improving home care data by establishing a comprehensive home care research agenda. They stated that this agenda should move toward building an evidence base that contributes to policy-making and the improved provision of services (Côté & Fox, 2007). The evidence created in this study is timely in this regard.

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Appendices

Case Manager Resource Allocation Decision-making in Home Care

Appendix 1. Recruitment Poster
Case Manager Decision-making Study
Understanding the Influence and Interplay of Factors Used in ***Decision-making by Case Managers about Resource Allocation*** *within the Home Care Context*

Principal Investigator: Kim Fraser, RN, PhD(c)

This study is part of my doctoral program at the Faculty of Nursing at the University of Alberta. I am interested in understanding the influence of various types of information and how it is used in case manager decision-making around the allocation of resources to home care clients. I will be spending periods of observation in your home care office and observing a few specific nurse case managers. I am seeking case managers who agree to:

1- interviews and a card sort activity, or
2- observation, or
3- focus groups.

If you agree to participate, you may consent to interviews and card sorting, observation for one or two days, including client visits, or focus groups. Any information that is collected from you and that can identify you will remain confidential.

Time Commitment:

Interviews are anticipated to be one and one half hours for interview one, the second and third interview will be one hour each. Observation will occur during your regular work day. Each focus group will take approximately one to one and one half hours.

Participation in this study is voluntary.

For further information please contact:
Researcher: Kim Fraser RN, PhD (c) Faculty of Nursing 780-492-8473
Doctoral Supervisor: Dr. Carole Estabrooks RN, PhD Faculty of Nursing 780-492-3451
3rd Party Director: Dr.Kathy Kovacs Burns Research Faculty of Nursing 780-492-3769

Disclosure:
Kim Fraser is an owner of We Care Home Health Services in Edmonton. We Care is a contracted agency with the Capital Health Authority.

Appendix 2. Research Information Sheet for Home Care Case Managers
Case Manager Decision-making Study

For Interview and/or Observation Participants

Title of Study: *Understanding the Influence and Interplay of Factors Used in **Decision-making by Case Managers about Resource Allocation** within the Home Care Context*

Principal Investigator: Kim Fraser, RN, PhD(c)
Supervisor: Dr. Carole Estabrooks, RN, PhD

Background: This study is part of my doctoral program at the Faculty of Nursing at the University of Alberta.

Purpose: I am interested in understanding the influence of various types of information and how it is used in case manager decision-making around the allocation of resources to home care clients. I will be spending periods of observation in your home care office and observing a few specific nurse case managers during their regular work day. I am seeking case managers who agree to be interviewed up to three times and do a card sorting exercise during one of the interviews, or to participate in a focus group, or to be observed.

Procedures and Time Commitment: If you agree to participate, the first interview will take approximately 60-90 minutes. The second interviews, including the card sorting activity, will take approximately 60 minutes. The third interview will take approximately 30 minutes. I will be seeking additional nurse case managers to participate in a focus group with other nurse case mangers that will last for approximately 60 to 90 minutes. I would like to observe two to four home visits with one or two case managers. You may consent to interviews and card sorting, participant observation, or both. This information will be used to better understand what factors influence resource allocation decisions, and how the home care context affects resource allocation decisions. Any information that is collected from you and that can identify you will remain confidential. I will not reference the names of people interviewed in any verbal or written account of the research.

Possible Benefits: You may gain more awareness of your decision-making practices by participating in this study.

Possible Risks: Other than the time burden, I anticipate no risks from participation in this research.

Confidentiality: All information will be held confidential (or private), except when professional codes of ethics or legislation (or the law) require reporting. The data you provide will be kept for a minimum of seven years. The information will be kept in a secure area (i.e. locked filing cabinet). Your name or any other identifying information will not be attached to the information you gave. Your name will also never be used in any presentations or publications of the study results. The information gathered for this study may be examined and analyzed again in the future to help us answer other study questions. If so, an ethics board will first review the study to ensure the information is used ethically.

Case Manager Decision-making Study **p. 2**

Voluntary Participation: You are under no obligation to participate in the study. If at any time you do not wish to take part, you may just indicate this to me. Further, you may withdraw at anytime or refuse to answer any question after signing the consent. I will ask you to sign a written consent prior to any direct observations. You may tell me or any staff member that you do not want to be observed, and I will follow your request. Your decision to not answer a question or to withdraw will be without prejudice and will not affect your role as case manager.

Contact names and Telephone Numbers: If you have any concerns about your rights as a study participant, you may contact any of the people below.

Researcher:	Kim Fraser RN, PhD (c)	Faculty of Nursing	780-492-8473
Doctoral Supervisor:	Dr. Carole Estabrooks RN, PhD	Faculty of Nursing	780-492-3451
3rd Party Director:	Dr. Kathy Kovacs Burns Research	Faculty of Nursing	780-492.3769

Disclosure:
Kim Fraser is an owner of We Care Home Health Services in Edmonton. We Care is a contracted agency with the Capital Health Authority.

Appendix 3. Research Information Sheet for Home Care Case Managers
Case Manager Decision-making Study

For Focus Group Participants

Title of Study: *Understanding the Influence and Interplay of Factors Used in* ***Decision-making by Case Managers about Resource Allocation*** *within the Home Care Context*

Principal Investigator: Kim Fraser, RN, PhD(c)
Supervisor: Dr. Carole Estabrooks, RN, PhD

Background: This study is part of my doctoral program at the Faculty of Nursing at the University of Alberta.

Purpose: I am interested in understanding the influence of various types of information and how it is used in case manager decision-making around the allocation of resources to home care clients. Following analysis of observation and interview data I am seeking case managers who agree to participate in a focus group. The purpose of the focus group is to review and discuss the results of the initial analysis from the interview and observation data. The information for discussion will be presented in a chart format (taxonomy) at the focus group.

Procedures: If you agree to participate, the focus group will be with three to five other nurse case mangers and it will last for approximately 60 to 90 minutes. I will ask you to review and discuss the taxonomy that I created from the initial analysis to see if it makes sense to you, to identify any areas that you feel are missing, or information that does not seem to be in the right category. This information will be used to better understand what factors influence resource allocation decisions, and how the home care context affects resource allocation decisions. Any information that is collected from you and that can identify you will remain confidential. I will not reference the names of people interviewed in any verbal or written account of the research.

Possible Benefits: You may gain more awareness of your decision-making practices by participating in this study.

Possible Risks: Other than the time burden, I anticipate no risks from participation in this research. If you are a participant in a focus group I will keep your information confidential. Although it will be asked of all participants, I cannot guarantee that others in the focus group will keep what is said confidential.

Confidentiality: I will keep information confidential (or private), except when professional codes of ethics or legislation (or the law) require reporting. The data you provide will be kept for a minimum of seven years. The information will be kept in a secure area (i.e. locked filing cabinet). Your name or any other identifying information will not be attached to the information you gave. Your name will also never be used in any presentations or publications of the study results. The information gathered for this study may be examined and analyzed again in the future to help us answer other study questions. If so, an ethics board will first review the study to ensure the information is used ethically.

Voluntary Participation: You are under no obligation to participate in the study. If at any time you do not wish to take part, you may just indicate this to me. Further, you may withdraw at anytime or refuse to answer any question after signing the consent. I will ask you to sign a written consent prior to any direct observations. You may tell me or any staff member that you do not want to be observed, and I will follow your request. Your decision to not answer a question or to withdraw will be without prejudice and will not affect your role as case manager.

Contact names and Telephone Numbers: If you have any concerns about your rights as a study participant, you may contact any of the people below.

Researcher:	Kim Fraser RN, PhD (c)	Faculty of Nursing	780-492-8473
Doctoral Supervisor:	Dr. Carole Estabrooks RN, PhD	Faculty of Nursing	780-492-3451
3rd Party Director:	Dr. Kathy Kovacs Burns Research	Faculty of Nursing	780-492.3769

Disclosure:
Kim Fraser is an owner of We Care Home Health Services in Edmonton. We Care is a contracted agency with the Capital Health Authority.

Appendix 4. Informed Consent Form: Case Managers
Understanding the Influence and Interplay of Factors Used in Decision-making by Case Managers about Resource Allocation within the Home Care Context

Part 1:
Principle Researcher: **Kim Fraser RN, PhD (c)**
Doctoral Supervisor: Dr. Carole Estabrooks 492-3451
Faculty of Nursing, University of Alberta Phone: 492-8473

Part 2: (to be completed by participant)

Do you understand that you have been asked to be a participant in this research study?	Yes	No
Have you received and read a copy of the attached information sheet?		
Do you understand the benefits and the risks or participating in this study?		
Have you had an opportunity to ask questions and to discuss this study?		
Do you understand that you are free to refuse to participate or withdraw from the study at any time? You do not have to give a reason and it will not affect your job.		
Has the issue of confidentiality been explained to you?		
Do you understand who will have access to the information?		
Do you understand that the data collected is for the data analysis?		

This study was explained to me by:_____.
I agree to take part in this study. ☐ Yes ☐ No
I will take part in (please initial all that apply) ☐ Interviews ☐ Non-participant Observation ☐ Focus Group

_____ _____ _____
Signature of Research Participant Date Witness

_____ _____
Printed Name Printed Name

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

_____ _____
Signature of Principle Researcher Date

The information sheet must be attached to this consent form and a copy given to the participant.

Disclosure:
Kim Fraser is an owner of We Care Home Health Services in Edmonton. We Care is a contracted agency with the Capital Health Authority.

Researcher's Initials _____ Participant's Initials_____

Appendix 5. Demographic Questionnaire

My role is:

- ☐ **Case Manager**
- ☐ **Program Leader (Manager, Case Manager Supervisor, Professional Practice Leader)**

I have been a nurse for:

- ☐ **0-3 years**
- ☐ **4-10 years**
- ☐ **11-15 years**
- ☐ **More than 15 years**

I have been a Case Manager for:

- ☐ **0-3 years**
- ☐ **4-10 years**
- ☐ **11-15 years**
- ☐ **More than 15 years**

I have had formal education in Case Management

- ☐ **No**
- ☐ **Yes**

If yes, please describe:

My highest level of education *in nursing* is:

- ☐ **RN Diploma**
- ☐ **Degree, describe_____**

Other education:

Past nursing experience includes:

Appendix 6. Interview Guide

Home Care Case Manager Resource Allocation Decision-making Study

Kim Fraser

November 15, 2005

Interview Guide

Do you mind answering some basic demographic questions before we start?

Can you tell me what your role is?

How long have you been a XXXXXXXX?

How long have you been a nurse?

Have you had formal education in Case Management?

Would you describe that for me?

What is your highest level of education *in nursing*? (i.e., Diploma, degrees)

Do you have other formal education?

Can you describe your past nursing experience?

Principles of Questioning

Spradley (1979) identifies several principles in asking questions and they apply to all questioning:

Concurrent principle: Structural, contrast, and descriptive questions are asked concurrently as they compliment one another. "You mentioned evidence, can you give me an example?" Participant answers. "Can you tell me how that differs from research?"

Explanation principle: What are the different kinds of evidence you use in decision-making?

Repetition principle: Can you think of any other kinds of client cues you would use?

Context principle: Some others have told me they do not use the wound care guidelines for pressure sores in cases of XYZ. Can you tell me if you agree with this and why or why not?

Cultural framework principle: Using the Participants' cultural frame as much as possible in questioning: Can you tell me all of the things that *you* feel impede your ability to use research in your *home care* practice?

Descriptive Questions

Grand Tour Question:

Tell me how you go about making resource allocation, or service authorization decisions.

Mini-tour questions:

You mentioned XXXXXXXXX (i.e., family support, evidence, eligibility criteria, caseload, etc.), can you tell me how you use that information in your resource allocation decisions.

Example Questions:

Can you describe an actual case where that occurred?

Experience Questions:

What difference do you think it makes that you have twenty years of experience as a case manager?

Native-language Questions: What do you mean by the CSR (or any other foreign term to the interviewer)?

Structural Questions

It is a guide and preliminary list only and will be tailored to the culture of case manager resource allocation decision-making according to the data collected and analyzed. There are five types of structural questions that will be used: verification, cover term, included term, substitution frame, and card sorting questions. Examples of these questions are:

Are there any other:

- kinds of decision support tools?
- kinds of resource allocation decisions that case managers make that could inform this study?
- kinds of decisions where case managers might draw on evidence
- kinds of actors who make these decisions in this environment
- kinds of artifacts that would be used in resource allocation decision-making
- kinds of relationships that affect case manager resource allocation decision-making?
- kinds of feelings case managers demonstrate?

kinds of goals case managers have?
kinds of events that take place surrounding case manager resource allocation decision-making?
kinds of comments case managers make?
kinds of questions case managers ask?
ways case managers achieve resource allocation decision-making?
avoid making decisions?
causes of particular case manager decision-making behavior?
effects of case manager decision-making behavior?
reasons for doing certain things?
reasons for changing resource allocations decisions?
places for making resource allocation decisions?
places that affect case manager decision-making behavior?
things that are used in case manager resource allocation decision-making?
stages in case manager resource allocation decision-making behavior?
parts to case manager resource allocation decision-making?
factors in case manager resource allocation decision-making?
extraneous bits of information are used in case manager resource allocation decision-making?

Contrast Questions

These will be used in semi-structured interviewing and during card sorting as necessary.

Contrast questions are directed by four principles:
The Relational principle: how is the meaning of one symbol is related to all other symbols?
The Use Principle: asking how a symbol is used, rather that what it means.
The Similarity Principle: how is one symbol related to other symbols?
The Contrast Principle: how is one symbol different from other symbols?

There are several ways to assess dimensions of contrast. I will use the seven kinds of contrast questions as set out by Spradley (1979).

Contrast verification questions: I am interested in knowing about all of the types of decisions you make that you would consider a resource allocation decision. Can you tell them to me? Participant lists. Because you need to get a supervisor's approval with A, is that why it is different than B?

Directed contrast questions: You told me you consider certain eligibility criteria to be evidence. Can you tell me which ones exactly? Which ones do you feel are not evidence?

Dyadic contrast questions: seeking to identify differences in two terms of a single domain, i.e., what makes these two terms similar or different?

Triadic contrast questions: seek to identify how three terms are related, i.e., what makes this one different form the other two?

Contrast set sorting questions: I will provide piles of cards based ask the participant to group them into two or more piles in terms of their likeness or differences. It allows the participant to compare and contrast all of the terms and sub-terms within a large domain. The participant sorts the cards by placing all terms that are similar in a pile. The first term on a card different from those in the first pile will be placed in a second pile, the next term that is different begins a third pile and so on until all cards are sorts. The end result is a few or several piles where terms in one pile are similar and terms in the different piles are contrasting. The piles are dimensions of contrast. The participant then names and describes the piles.

Twenty Questions Game: This line of questioning seeks to ask questions about the details of an object and can be useful in determining the specific meaning of a folk term. For example, is that like a decision support tool? Does it take long to use? Do you need any special training to apply it?

Rating questions: I will ask the participant questions like what information or knowledge source provides the most, or least value to them in terms of decision-making.

Appendix 7. Research Information Sheet for Home Care Clients Case Manager Decision-making Study

Title of Study: *Understanding the Influence and Interplay of Factors Used in* ***Decision-making by Case Managers about Resource Allocation*** *within the Home Care Context*

Principal Investigator: Kim Fraser, RN, PhD(c)
Supervisor: Dr. Carole Estabrooks, RN, PhD

Background: This study is part of my doctoral degree at the Faculty of Nursing at the University of Alberta.

Purpose: I am studying how information is used in case manager decision-making around making decisions about care home care clients get. I want to go with your case manager on a visit to your home to watch and learn about the information the case manager needs to collect to help with decision-making. This information will be used to better understand what information is collected and how it is used to make decisions about home care services a client gets.

Procedures and Time Commitment: If you agree to participate, you are agreeing to allow me to come into your home with your case manager to observe your case manager doing an assessment or re-assessment. I will observe what information the case manager collects from you and how they use that information to determine your service needs. I will not tape-record the visit, but I may write notes about the information the case manager collects from you during the visit.

Possible Benefits: I anticipate no benefits to you by agreeing to participate in this study.

Possible Risks: Other than the having me in your home with the case manager, and the time it takes to explain the study and obtain your written consent, I anticipate no risks from participation in this research.

Confidentiality: All information and observations will be held confidential (or private), except when professional codes of ethics or legislation (or the law) require reporting. The data you provide will be kept for a minimum of seven years. The information will be kept in a secure area (i.e. locked filing cabinet). Your name or any other identifying information will not be attached to the information you gave. Your name will also never be used in any presentations or publications of the study results. The information gathered for this study may be examined and analyzed again in the future to help us answer other study questions. If so, an ethics board will first review the study to ensure the information is used ethically.

Voluntary Participation: You are under no obligation to participate in the study. If at any time you do not wish to take part, you may just indicate this to me or the case manager. Further, you may withdraw at anytime or decide that you do not want your visit to be observed after signing the consent. Your decision to not participate or to withdraw from this research will be without prejudice and will not affect your care.

Participation in this study is voluntary.

Contact names and Telephone Numbers: If you have any concerns about your rights as a study participant, you may contact any of the people below.

Researcher:	Kim Fraser RN, PhD (c)	Faculty of Nursing	780-492-8473
Doctoral Supervisor:	Dr. Carole Estabrooks RN, PhD	Faculty of Nursing	780-492-3451
3rd Party Director:	Dr. Kathy Kovacs Burns Research	Faculty of Nursing	780-492.3769

Disclosure:

Kim Fraser is an owner of We Care Home Health Services in Edmonton. We Care is a contracted agency with the Capital Health Authority.

Appendix 8. Informed Consent Form: Client

Understanding the Influence and Interplay of Factors Used in
Case Manager Resource Allocation Decision-making
within the Home Care Context

Part 1:
Principle Researcher: **Kim Fraser RN, PhD (c)**
Doctoral Supervisor: Dr. Carole Estabrooks
Faculty of Nursing, University of Alberta Phone: 492-8473
Part 2: (to be completed by participant)

Do you understand that you have been asked to be a participant in this research study?	Yes	No
Have you received and read a copy of the attached information sheet?		
Do you understand the benefits and the risks or participating in this study?		
Have you had an opportunity to ask questions and to discuss this study?		
Do you understand that you are free to refuse to participate or withdraw from the study at any time? You do not have to give a reason and it will not affect your care.		
Has the issue of confidentiality been explained to you?		
Do you understand who will have access to the information?		
Do you understand that the data collected is for the data analysis?		

This study was explained to me by:_____.
I agree to take part in this study.

_____ _____ _____
Signature of Research Participant Date Witness

_____ _____
Printed Name Printed Name

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

_____ _____
Signature of Principle Researcher Date

The information sheet must be attached to this consent form and a copy given to the participant.

Disclosure:
Kim Fraser is an owner of We Care Home Health Services in Edmonton. We Care is a contracted agency with the Capital Health Authority.

Researcher's Initials _____ Participant's Initials_____

Appendix 9. Event Sampling/Observation Framework to Guide Non-Participant Observation Segments

Sampling Events and Observations:	**What I will look for and why it is important to this study**
Formal Communication Venues	Instances where case managers are discussing service authorizations and decisions about care requirements because case managers discuss challenging cases to determine best course of action
Regular Case/Staff Meetings	Because case reviews and services for clients are discussed here
Tasks: (non-participant observation) New client assessments Re-assessments Discharge Planning Case/Family conferences	Because this is where decision-making about resource allocation occurs. Assessments, re-assessments, and discharge planning is most often about resource allocation and care planning
Informal Communication Venues	Because peers discuss cases when making decisions and many of these discussion occur informally outside of case conferences, case reviews and meetings
Time with Professional Practice Leader	Because challenging decisions often go to professional practice leaders to brain storm, appropriate level of care or suitability for transfer of nursing task to a home health aide

Appendix 10. Operational Guidelines for Analysis

An Ethnoscience Research Project

Home Care Case Management Resource Allocation Decision-making

Spradley's Data Collection and Analysis Techniques

Kimberly D. Fraser RN, PhD(c)

Faculty of Nursing

University of Alberta

November 1, 2005

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Descriptive Questions

This is an example of how I will use Spradley's illustration of descriptive questions in my interviewing.

Grand-tour questions: Tell me how you make resource allocation decisions.

Mini--tour questions: Tell me how you use evidence in resource allocation decisions.

Example Questions: Can you describe an actual case where this occurred?

Experience Questions: What difference does it make that you have twenty years of experience with this?

Native-language Questions: What do you mean by the CSR?

These descriptive questions will form the basis of my interviews in Round 1. I will do open coding to determine invivo codes that will inform my decisions for the terms that I will put on the cards for the card sorting exercises that will be done in Round 2.

Spradley, J.P. (1979). The Ethnographic Interview

Domain Analysis

Domain analysis occurs in synchrony with data collection. This is the initial stage of data analysis where I will search for patterns that make up the culture. This analysis will help me to structure future encounters (i.e., the trigger that will support the second round of interviews in this case). This is the analytic stage where I will identify the semantic relationships in the data (i.e., X is a type of Y). Spradley identifies nine universal semantic relationships.

Spradley's Universal Semantic Relationships (Spradley, 1979, p. 111)

Title	**Form of Relationship**
1. **Strict inclusion**	X is a kind of Y
2. **Spatial**	X is a place in Y; X is a part of Y
3. **Cause-effect**	X is a result of Y; X is a cause of Y
4. **Rationale**	X is a reason for doing Y
5. **Location for action**	X is a place for doing Y
6. **Function**	X is used for Y
7. **Means-end**	X is a way to do Y
8. **Sequence**	X is a step (stage) in Y
9. **Attribution**	X is an attribute (characteristic) of Y

Examples:

1. Strict inclusion	Cognitive ability and physical function are kinds of client cues
2. Sequence	Client assessment is a step in case manager data collection

Each domain has three parts, included terms, a semantic relationship, and a cover term. In example one above, 'cognitive ability' and 'physical function' are **cover terms**, 'a kind of' is the **semantic relationship**, and 'client cue' is the **cover term**.

Spradley, J.P. (1979). The Ethnographic Interview

Domain Analysis Worksheet

1. Semantic Relationship:_____
2. Form: _____
3. Example:_____

Included Terms Semantic Relationship Cover Term

Is a kind of → → → → → → → →

_____ _____

_____ _____

_____ _____

Structural Questions: _____

Included Terms Semantic Relationship Cover Term

Is a kind of → → → → → → → →

_____ _____

_____ _____

_____ _____

Structural Questions: _____

Spradley (1979) The Ethnographic Interview, p. 113.

Structural Questions

This list is based on Spradley's suggestions (1979, p. 192). It is a guide and preliminary list only and will be tailored to the culture of case manager resource allocation decision-making according to the data collected and analyzed. There are five types of structural questions: verification, cover term, included term, substitution frame, and card sorting questions. Examples of these questions are:

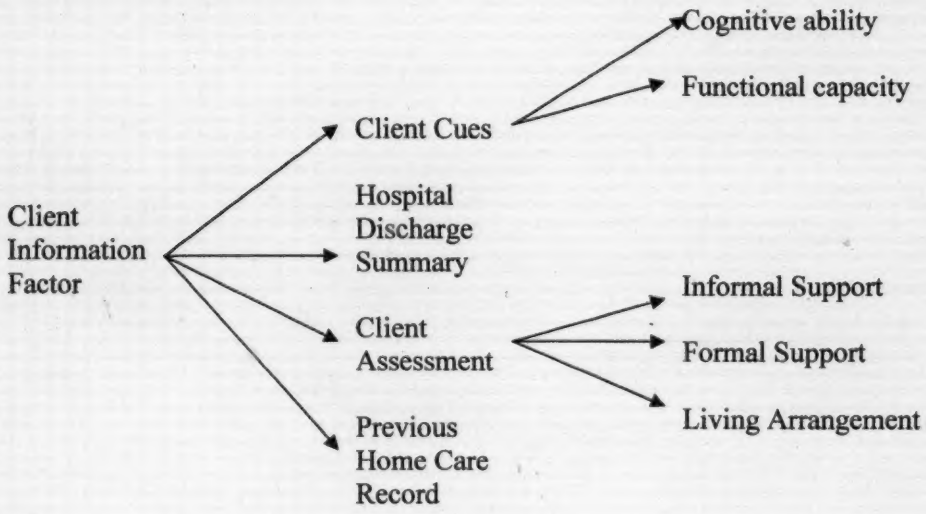
Are there any other:

- kinds of decision support tools?
- kinds of resource allocation decisions that case managers make that could inform this study?
- kinds of decisions where case managers might draw on evidence
- kinds of actors who make these decisions in this environment
- kinds of artifacts that would be used in resource allocation decision-making
- kinds of relationships that affect case manager resource allocation decision-making?
- kinds of feelings case managers demonstrate?
- kinds of goals case managers have?
- kinds of events that take place surrounding case manager resource allocation decision-making?
- kinds of comments case managers make?
- kinds of questions case managers ask?
- ways case managers achieve resource allocation decision-making?
- avoid making decisions?
- causes of particular case manager decision-making behavior?
- effects of case manager decision-making behavior?
- reasons for doing certain things?
- reasons for changing resource allocations decisions?
- places for making resource allocation decisions?
- places that affect case manager decision-making behavior?
- things that are used in case manager resource allocation decision-making?
- stages in case manager resource allocation decision-making behavior?
- parts to case manager resource allocation decision-making?
- factors in case manager resource allocation decision-making?
- extraneous bits of information are used in case manager resource allocation decision-making?

Taxonomic Analysis

This is a more in-depth analysis of the domains. This stage of analysis continues in synchrony with periods of data collection.

An example of a taxonomic analysis. There are other ways to illustrate this taxonomy such as in an outline form or chart.



Spradley, J.P. (1979). The Ethnographic Interview

Contrast Questions

These will be used in semi-structured interviewing and during card sorting as necessary.

Contrast questions are directed by four principles:
The Relational principle: how is the meaning of one symbol is related to all other symbols?
The Use Principle: asking how a symbol is used, rather that what it means.
The Similarity Principle: how is one symbol related to other symbols?
The Contrast Principle: how is one symbol different from other symbols?

There are several ways to assess dimensions of contrast. I will use the seven kinds of contrast questions as set out by Spradley (1979).

Contrast verification questions: I am interested in knowing about all of the types of decisions you make that you would consider a resource allocation decision. Can you tell them to me? Participant lists. Because you need to get a supervisor's approval with A, is that why it is different than B?

Directed contrast questions: You told me you consider certain eligibility criteria to be evidence. Can you tell me which ones exactly? Which ones do you feel are not evidence?

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Twenty Questions Game: This line of questioning seeks to ask questions about the details of an object and can be useful in determining the specific meaning of a folk term. For example, is that like a decision support tool? Does it take long to use? Do you need any special training to apply it?

Rating questions: I will ask the participant questions like what information or knowledge source provides the most, or least value to them in terms of decision-making.

Principles of Questioning

Spradley (1979) identifies several principles in asking questions and they apply to all questioning:

Concurrent principle: Structural, contrast, and descriptive questions are asked concurrently as they compliment one another. "You mentioned evidence, can you give me an example?" Participant answers. "Can you tell me how that differs from research?"

Explanation principle: What are the different kinds of evidence you use in decision-making?

Repetition principle: Can you think of any other kinds of client cues you would use?

Context principle: Some others have told me they do not use the wound care guidelines for pressure sores in cases of XYZ. Can you tell me if you agree with this and why or why not?

Cultural framework principle: Using the Participants' cultural frame as much as possible in questioning.: Can you tell me all of the things that *you* feel impede your ability to use research in your *home care* practice?

Componential Analysis

Componential analysis is the process of searching for dimensions of contrast, attributes of terms, and components of meaning. All of this information is entered into a chart Spradley refers to as a paradigm chart. The accuracy of the chart is verified with participants. There are eight steps to a full componential analysis and I have attempted to describe and illustrate them here. This is somewhat difficult to do without a full set of real data but it illustrates the various steps in this analysis to a degree. Spradley (1979, Part 2, Step 10) illustrates several examples of componential analysis.

1. **Identify the domain,** i.e., factors influencing the decision
2. **Create an inventory** of previously discovered contrasts. This could examine various sources of information arising our of early versions of the taxonomy
3. Create a **paradigm worksheet**

    Example of part of a paradigm worksheet*:

    a. Factors influencing decisions
        i. Client characteristics
            1. Client Cues
                a. Cognitive ability
                b. Physical function
            2. Age
            3. Living arrangement
4. **Classify dimensions of contrasts** that have binary values (e.g., yes/no). For example, one dimension of contrast for client cues might be *Impairment? Partial Impairment? No impairment?* i.e., cognitive ability Y Y N, physical function N N Y
5. **Combine related dimensions of contrast** into ones that have multiple values (e.g., extent of disability) physical function, *Partially impaired* Y
6. **Prepare contrast questions for missing attributes and new dimensions of contrast** (e.g., do family members' coping styles influence decisions)
7. Conduct **selective interviews** to discover missing data and elicit needed data..
8. Prepare the **complete paradigm** worksheet (this will be used as a chart in the final ethnography as a way to present large amounts of data in a concise manner). After participants participate in selective interviews the paradigm worksheet is revised. This may be done more than once.

*The entire paradigm worksheet would be completed on a large spreadsheet, hand written or electronically.

The researcher makes choices on what domains are examined to this extent and detail. I will make this choice throughout data collection and analysis and in consultation with my supervisor and selected committee members.

Spradley, J.P. (1979). The Ethnographic Interview